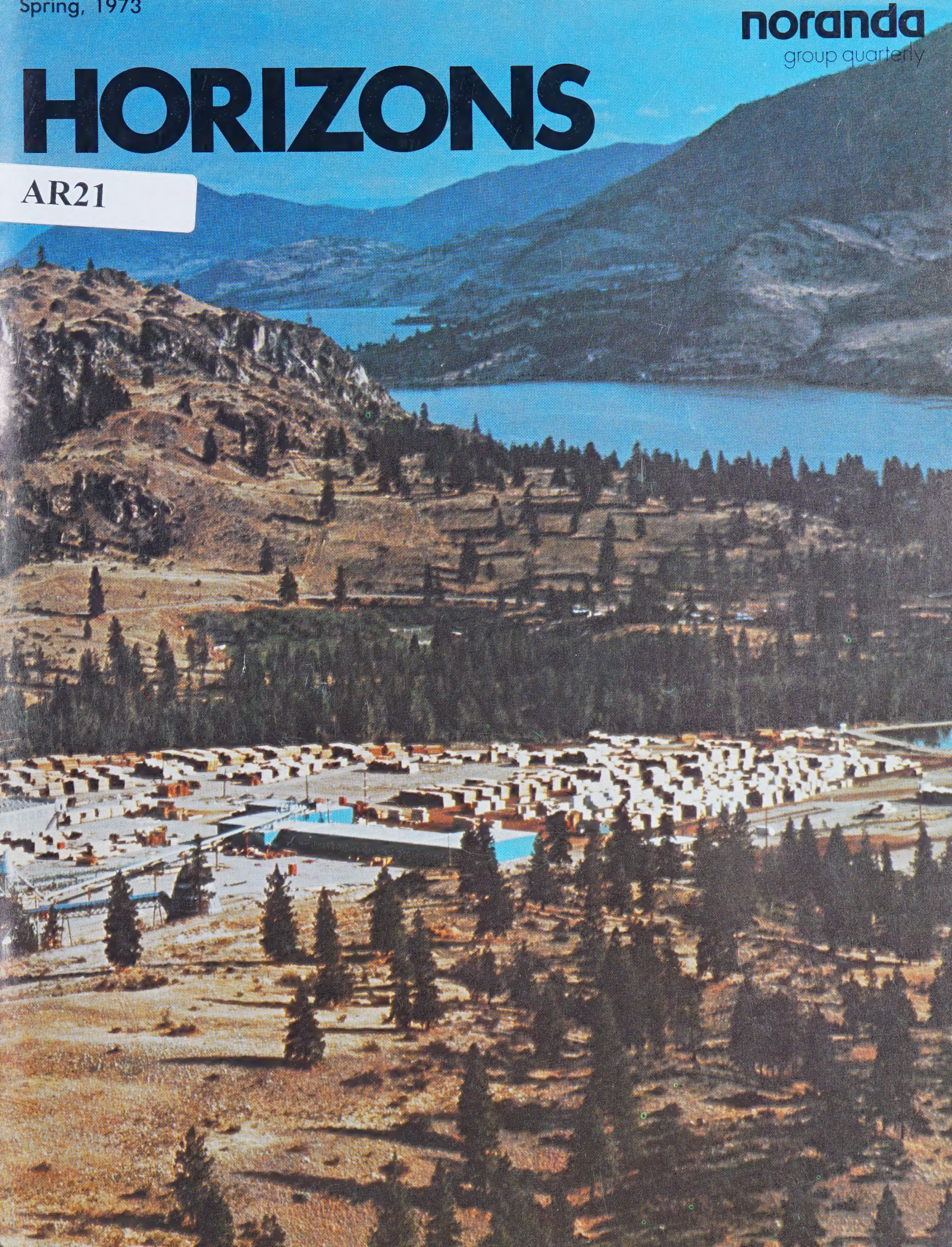
Spring, 1973

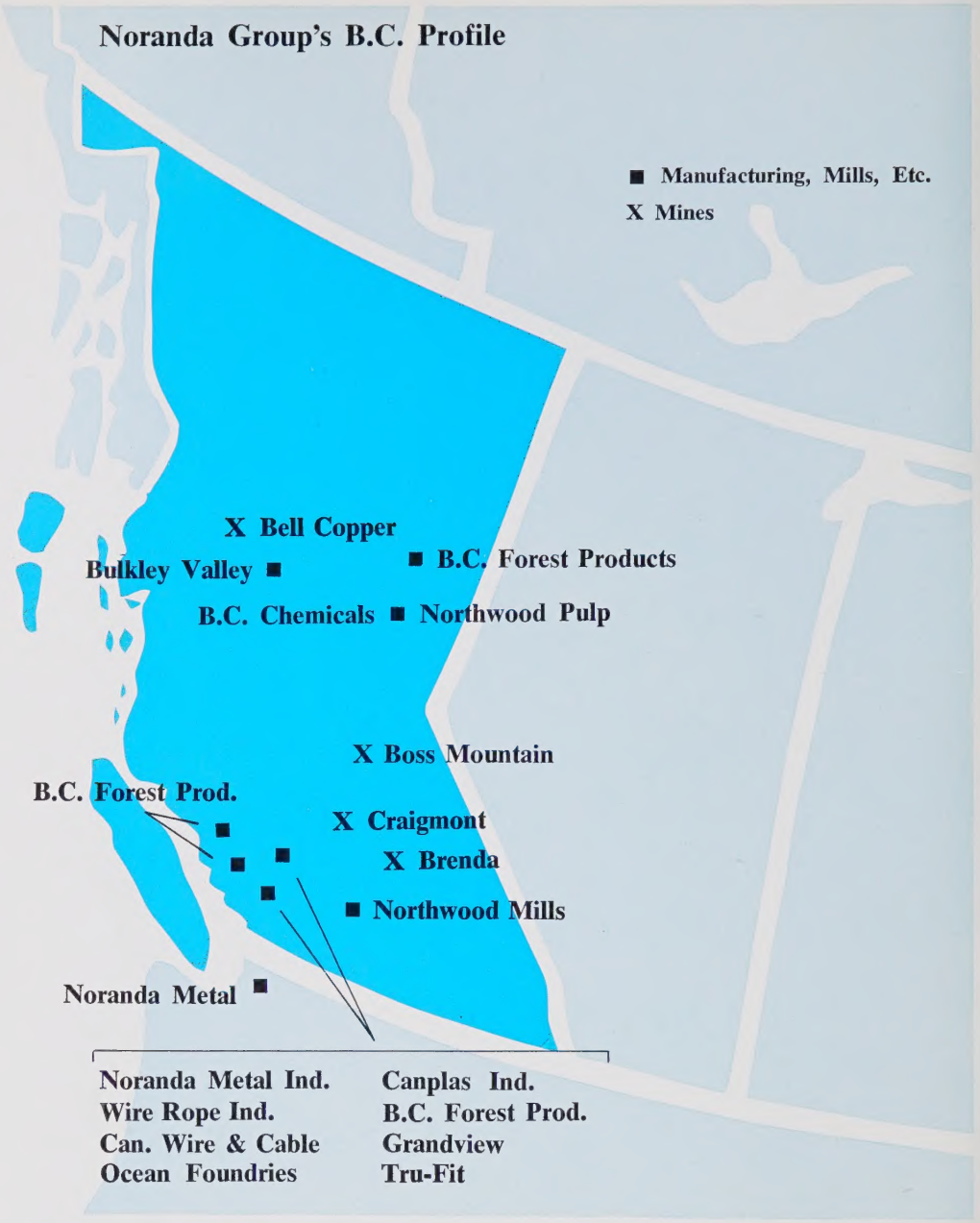
noranda
group quarterly

HORIZONS



Spring, 1973 Vol. 2, No. 1

Contents



Exploration/Mining/Manufacturing/Forest Products/Marketing*

Employees 9,380
Annual Payroll $98,000,000
Noranda Shareholders 3,223
(resident in B.C.)
Shares held by B.C. Residents 2,141,984
(February, 1973)
****Capital & Other Investments $331,050,000**

Exploration $13,000,000
(cumulative)
†**Total Taxes $27,000,000**
Annual Purchases $100,000,000
(supplies & services)

Horizons is published by the Corporate Relations Department of Noranda Mines Ltd. at Commerce Court West, P.O. Box 45, Toronto.
Editor: N. P. Cotter

Printed in Canada

*Includes B.C. Forest Products in which Noranda and The Mead Corporation hold a joint 58 per cent interest, and other companies owned 40 per cent or more by Noranda.

**Includes investment in B.C. Forest Products and investment holding (28 per cent) in Placer Development.
†Noranda and BCFP payments of federal, provincial, sales, stumpage, school, municipal and sundry taxes, in 1972.

First in a series on regional Noranda Group operations.

The Noranda Group in British Columbia

The Noranda Group's progress in manufacturing and resource activities in British Columbia since 1958 has few parallels even in that province's recent history of rapid economic advance.

Fifteen years ago, Noranda interests in British Columbia employed about 50 persons in a fledgling manufacturing operation and in mineral exploration.

Today, the Noranda Group of Companies in British Columbia has more than 9,300 employees engaged in mineral exploration, mining, various manufacturing operations, logging, sawmills, wood fabricating, pulp and newsprint production.

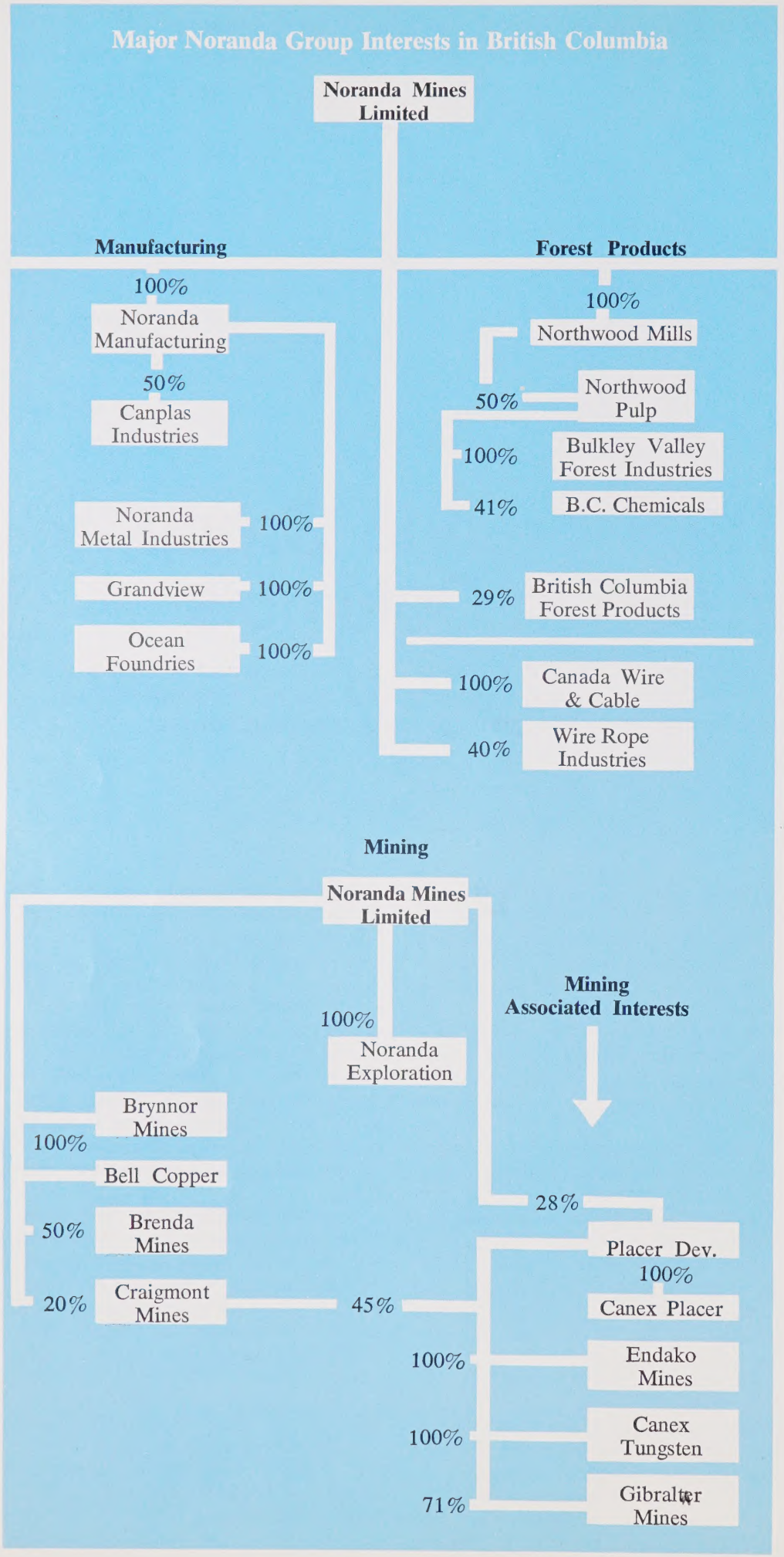
A conservative estimate of the multiplier effect of these activities is that they support an additional 40,000 jobs in service and related operations in the province. Industry and government sources estimate that, for each job in the forest industry, four others are created in the service and supply sectors; each job in mining generates at least five others in the provincial economy.

The added employment results principally from the Group's constant and sizeable purchases — mainly within the province — of goods and services. These approximate $100-million a year.

Jobs are one important aspect of the creative enterprise and risk-taking applied by Noranda interests in British Columbia. The Group's progress over little more than a decade has few parallels even in that province's recent history or rapid economic advance. For Noranda — and for British Columbia — this progress encompasses new manufacturing operations, the revitalization of part of a mature industry, new mines, services and, of course, thousands of new jobs, homes and broadening prosperity for a province where increased emphasis on social improvements cannot be dissociated from economic well-being.

Noranda geologists have been active in British Columbia since the 1940s, but the initial operating base was in manufacturing — a $1.3-million investment in a new plant completed in 1958 at New Westminster by Canada Wire and Cable Company, a Noranda subsidiary. From this beginning, the Group's investment in British Columbia has risen to more than $330-million, including investments in associated forest products and mining companies which have combined assets of approximately $440-million.

Continued



In addition to its own operations, the Noranda Group holds a 28 per cent interest in Placer Development Ltd. of Vancouver, which has diversified mining interests in Canada and abroad and assets of more than $150-million. Placer's 1,430 employees in British Columbia are engaged mainly in the mining industry and account for another 7,000 jobs in addition to the 40,000 extra positions created by other Noranda interests. Placer's annual payroll, including benefits, is more than $1.9-million in British Columbia.

Forest Products Prominent Position

Noranda and the Mead Corporation of Dayton, Ohio (joint owners of Northwood Pulp and Timber Limited of Prince George), each holds a 29 per cent interest in British Columbia Forest Products Limited of Vancouver, one of Canada's largest integrated producers of forest products. Assets of B.C. Forest Products are about $280-million. (Because of its experience in pulp production and marketing, The Mead Corporation was brought in by Noranda as an equal partner in establishing a pulp mill at Prince George.)

A striking feature of the Group's interests in British Columbia is the emergence over 12 years of its forest products operations to a prominent position in the provincial and national forest industry. Noranda's various holdings in the forest industry, into which the company diversified in 1961 with a $2-million investment in some insolvent sawmills, now comprise the province's second largest source of forest products. One Noranda subsidiary — Northwood Mills Ltd. — is the world's leading distributor of western white spruce lumber. Investments in the forest industry by Noranda and its partner, The Mead Corporation, now total some $146-million and include the interests acquired in B.C. Forest Products.

Exploration first

In view of Noranda's origin in mineral exploration and development, still a vital Group activity, it is not surprising that exploration preceded the establishment of the Group's operating base in British Columbia.

Noranda Exploration has long been active in the province, although it was not until the late 1950s that its efforts materialized in potentially new mining ventures. The company was involved at early stages of exploration that preceded development to production of iron ore, molybdenum, copper-molybdenum and copper mines during the past 12 years.

Recent annual expenditures by Noranda Exploration have been more than $1-million in British Columbia and the company has estimated 1973 exploration spending at about $1.3-million, although uncertainty — outlined subsequently in this article — is clouding the future of exploration generally in the province. Cumulative exploration expenditures by Noranda, excluding substantial outlays required after preliminary indications of mineral deposits were established, have totalled $13-million.

Mining Ventures

Noranda's entry into the B.C. mining industry occurred in 1958 when the company took a 25 per cent participation in a financing agreement to develop the large, open pit copper property at **Craigmont Mines Ltd.** The mine came into production in September, 1961. Today, Noranda holds a direct 20 per cent interest in Craigmont, as well as its interest in Placer which manages Craigmont.

The Noranda Group's first wholly-owned mining venture in British Columbia was the Kennedy Lake iron ore mine on Vancouver Island. Acquired under option by Noranda Exploration in 1960, the mine was brought into production in May, 1962, by **Brynnor Mines Ltd.,** a subsidiary. Four years later, Brynnor was forced to abandon the operation due to a labour strike and to uneconomic costs of converting the open pit operation to underground mining. Total capital expenditures on this project, which employed 120 men, were $16.6-million, of which $3.8-million was spent on underground preparation during the mine's operating life.

Brynnor's **Boss Mountain** molybdenum mine at Hendrix Lake started production in 1965 following preproduction and capital costs of $12.2-million. Production was suspended indefinitely in December, 1971, due to poor markets, operating losses resulting from declining ore grade, high labour costs and the prevailing high value of the Canadian dollar which affected revenue from offshore molybdenum sales.

$62.5-Million Brenda Project

The copper-molybdenum open pit mine of **Brenda Mines Ltd.,** which is 50 per cent owned by Noranda and also managed by it, has experienced the vagaries of economic trends. Capital cost of bringing the mine into production early in 1970 was $62.5-million.

On net production of $27.9-million in 1971 — the mine's first full year of operations — Brenda reported a loss before extraordinary items of $337,362. In the same year, Brenda paid $670,540 in provincial mining, municipal and sundry taxes. The mine employs some 400 persons who account for an annual payroll of about $4-million. Brenda's three-year federal tax exempt period ended February 28, 1973. In 1972, the mine had a net loss of $1.7-million.

Together with Noranda's **Bell Copper** mine — a low-grade open pit copper operation — development of the Brenda project was deferred early in 1967 as a result of uncertainties generated by proposals for a new federal tax system. If implemented as originally proposed, the new system would have made both projects uneconomic. Following federal government assurances that tax exemptions for new mines would remain in effect until at least January 1, 1974, Noranda proceeded with development of Brenda. In 1970, the company decided to bring the Bell property into production.

The capital cost of bringing the Bell mine into operation late in 1972 was $44.5-million. The mine, which has a workforce of some 215 persons, is scheduled to produce 15,000 tons of copper contained in concentrate annually. The major portion of concentrate production is converted into refined metal by Noranda in Canada. Bell's annual payroll is approximately $1.9-million.

Noranda is committed to a program of reclamation and rehabilitation when operations at the Brenda open pit mine come to an end.

An artist's impression, based on Noranda's plans for reclamation, of how the restored mine-site will look.

Through its 28 per cent interest in Placer Development, Noranda participates in **Gibraltar Mines** (a $75-million open pit, copper-molybdenum mine); the **Endako** mine (molybdenum mine); **Canex Tungsten** (tungsten mine); and, as previously mentioned, **Craigmont Mines.**

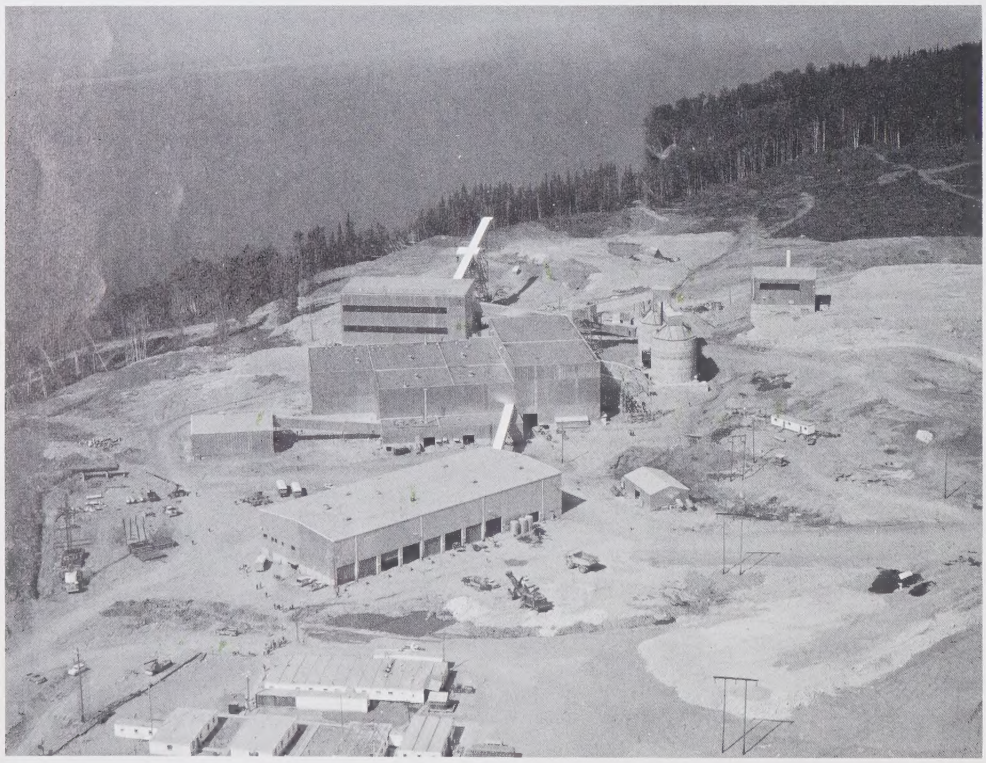
Added uncertainties for mining industry

The provincial mining industry's future is shadowed by uncertainty over the direction yet to be taken by the government in the area of revenues from mineral resources. British Columbia's mining industry operated at a net loss in 1971 and experienced another unsatisfactory year in 1972.

Moves by major mining interests, including Noranda, to establish needed copper smelting facilities in the province are also contingent on government recognition of realistic environmental-control limits within which such facilities can be operated. The industry's willingness to incorporate the most advanced and practicable pollution-control technology available merits careful assessment in the drafting of new government anti-pollution legislation.

An encouraging feature of last month's budget speech by Premier David Barrett was his statement that the government will not be stampeded into effecting changes in provincial revenues from mining and forest industries, but will await results of comprehensive studies now underway on these industries. Is was previously suggested that additional revenue would be raised from mining by imposition of royalties on ore regardless of a mine's profitability.

The mining industry, which is now at a tax disadvantage compared with its counterparts in the United States, Australia and other countries, believes that a responsible and fair assessment of its position in British Columbia will show its use of non-renewable resources meet the desired social and economic criteria government wants applied to resource development. The Noranda Group's long-standing policy of maximum economic use of resources in a manner compatible with recognized environmental and conservation principles is reflected in its B.C. operations and these meet fully the government's own approach of rational development in harmony with physical surroundings.



The Bell Copper mine in North-central British Columbia was brought into production late in 1972 with an enclosed tailings area and a water recycling system — part of the overall pollution-control program incorporated in the operation. When mining activities end, the site will be reclaimed.

Ore as an asset

In the industry's view, the government's goal of maximum value from non-renewable resource production can be achieved by converting into tangible assets ore deposits which, if left for development to some uncertain future time, represent no social or economic benefit to the province and provide no assurance of an improved, or any, subsequent return to the people of British Columbia.

Fluctuations in world metal prices are no respecter of a mining company's technical expertise. Metals consistently face competition from substitute materials and the volatile history of both metal prices and markets indicates continuation of this risk factor in an already high-risk industry.

Noranda's experience in the province's mining industry reinforces the industry's position on development. At considerable cost — and through application of modern mining techniques — the company brought into production economically marginal, low-grade deposits only after exhaustive feasibility studies on all factors related to likely future operations. Two out of four Noranda mining operations in British Columbia were forced to close by economic conditions that could not have been foreseeen, while it is questionable whether two existing Noranda-managed mines would have been brought into production at all in the light of revised federal tax changes and present uncertainties over future provincial rates.

Economic conditions closed 7 B.C. mines

Brynnor's Boss Mountain mine was one of seven provincial mines forced to close or to suspend operations during 1971 as a result of economic conditions. A number of other mining companies were compelled to reduce production due to unfavourable economic trends and to the invoking by Japanese customers of "force majeure" provisions in contracts.

Of 22 mining companies, representing almost the entire provincial industry, 11 companies reported combined 1971 losses of $36-million on employed net assets of $351-million. The other 11 companies reported overall earnings of $29-million on employed net assets of $264-million. In total, the 22 companies had a loss of $7-million on employed net assets of $615-million. An analysis of 1972 results is not yet available, but interim results into the third quarter of the year showed no marked improvement.

Lumber being trucked to one of Northwood Pulp's mills in North-central British Columbia.

The New Westminster manufacturing plant of Noranda Metal Industries.

Exploration slows

A preliminary study, completed late in 1972 by Price Waterhouse and Company, of the implications of royalties on the B.C. mining industry, noted the indicated general slow-down in the pace of provincial mineral exploration during 1971 had continued into 1972 and appeared to be part of a shift in exploration emphasis away from British Columbia. (A significant copper discovery in the Kamloops area provided a major impetus to 1972 exploration.)

The study continued: "This lends substance to the often-stated principle that mining capital does not recognize geographical boundaries, but rather that it will flow to existing or potential mining regions throughout the world in pursuit of the best opportunity for return on investment, commensurate with the risks and the legislative climate provided."

When Noranda first went into British Columbia, almost all of the company's exploration budget was spent in Canada. In 1965, Noranda was still directing 80 per cent of its exploration funds into Canadian programs. Six years later, the percentage of Noranda's total exploration spending in Canada was down to 45 per cent, with the balance directed to foreign programs.

It is calculated that each economic mineral discovery in British Columbia and Canada costs an average of $30-million, compared with $12-million in Australia. The cost of developing a new mine in Canada has more than doubled over the past seven years.

The Noranda Group is Canada's only integrated producer of copper from mine to end products.
A production line at the New Westminster plant of Noranda Metal Industries.

Royalties — A Deterrent

Cautioning that royalties on mining could have further deterrent effects on the industry's future, the Price Waterhouse study estimated that a hypothetical royaly base of 2.142 per cent on all minerals (based on a one-cent-a-pound levy on copper) would amount to $6,747,000 or $2,475,000 more than estimated 1971 provincial mining taxes of $4,272,000. The factor of 2.142 per cent was applied to 1971 average prices and then related to mining company operating results.

On the basis of such a hypothetical royalty, Brenda Mines, which had a loss of $337,362 before extraordinary items in 1971, would have paid royalties of $537,000 in that year. Without any offsetting relief in provincial and other taxes, the royalty total would have been additional to the $670,540 the company paid in provincial mining, municipal and sundry taxes.

According to the preliminary Price Waterhouse study, the response of the provincial industry to a royalty system could involve the following negative developments:

– Some mines may be closed, either temporarily or permanently, and in any event would close sooner than might have been expected under recent unfavourable market conditions.

– A number of mines will be compelled to curtail, or to completely abandon, programs for developing existing orebodies.

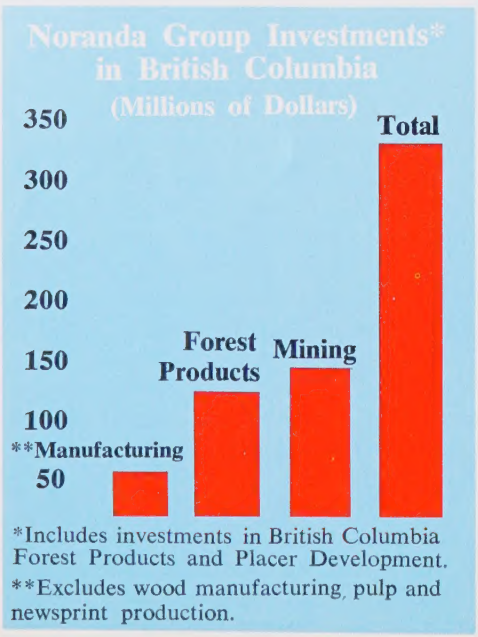
– Mines will generally tend to reject lower grades of ore now being processed on a marginal basis in favour of higher grade ore. This likely adoption of selective mining practices will significantly change ore to waste ratios and shorten the effective operating lives of mines.

The effective 1972 tax rate (including B.C. mining taxes and federal and provinicial income taxes) for a profitable mining company in British Columbia was about 40 per cent and it will be at least 45.75 per cent on implementation of proposed federal tax changes and the new corporate and capital taxes in British Columbia. This rate compares favourably with rates in other industries where the risk factor bears no comparison with that existing in the mining industry.

The 45.75 effective tax rate for profitable B.C. mining companies after recent changes are made compares with a maximum projected 1977 rate of 48 per cent for other companies and somewhat lower rates for processing and manufacturing industries where federal incentives apply or will apply. Indicated increases in the cost of leasing land for mining purposes, together with proposals for land use restrictions, also inject uncertainty into the industry's position.

Forest Products Operations

Interests controlled by, or associated with, Noranada represent British Columbia's second largest source of forest products. These companies have a current annual production capability of 900,000 tons of pulp and newsprint, more than 1.4 billion board feet of lumber and substantial output of plywood and fabricated wood products.



Confident of the industry's long term prospects, Noranda diversified into British Columbia's forest industry 12 years ago. The move was influenced by a belief that eventual development of the province's interior and northern regions would ultimately limit the quantity of timber available on a sustained yield basis, while markets for all forest products would continue to increase.

Despite recent improved earnings from forest industry interests, Noranda's average net annual return on its investments in the 10 years following 1961 was minimal, although the return rose sharply in 1972 because of unusually strong markets for lumber.

The company's major forest industry interests include: Northwood Mills Ltd. of Toronto, a wholly-owned subsidiary; Northwood Pulp and Timber Ltd. of Prince George, jointly owned by Noranda (through Northwood Mills) and The Mead Corporation of Dayton, Ohio; and British Columbia Forest Products Ltd. of Vancouver.

Northwood Mills

This Noranda subsidiary, Canada's largest producer-distributor of sawn lumber, operates four sawmills in British Columbia through its Okanagan, Penticton and Princeton divisions.

In addition to its logging and sawmill operations, Northwood Mills also operates building materials and wood manufacturing divisions, an ocean shipping division at North Vancouver and sales offices at Edmonton, Calgary, Winnipeg, Toronto and Montreal. A sales subsidiary, Northwood Mills of Canada Ltd., participates in the wood product marketing of three Scandinavian companies from a joint sales office in London, England.

A restructuring of Northwood Mills in 1972 reflected the absorption by the company of the former Tru-Fit door manufacturing division and the Cooper-Widman lumber marketing subsidiary of Bulkley Valley Forest Industries — acquired by Northwood Pulp and Timber early in 1972. The reorganization also integrated into Northwood Mills' building materials division, the Calgary and Edmonton distribution facilities of McBride Lumber and Building Supplies.

The company holds a 50 per cent interest in Northwood Pulp and Timber and markets that company's lumber production.

Production

The company produced 187.5 million board feet of lumber in 1972 and sold approximately 1,121 million board feet, including output by Northwood Pulp and distribution by Cooper-Widman.

Sales

Annual value of wood product sales, including plywood, is about $180-million.

Employees

Northwood employs more than 1,000 persons, including employees of Cooper-Widman and Tru-Fit.

Payroll

Annual wages, salaries and benefits exceed $10-million.

Northwood Pulp

Formed jointly by Noranda and Mead, Northwood Pulp and Timber operates four sawmills in the Prince George region, one sawmill in the Houston area and an 800-ton-daily capacity pulp mill near Prince George. The pulp mill represents employed assets of about $75-million. One-half of the pulp mill's annual output is taken by Mead and the balance is sold by Mead Pulp Sales in North America and overseas.

Northwood Pulp's acquisition of Bulkley Valley Forest Industries in 1972 from Consolidated Bathurst Ltd. and Bowaters Canadian Corporation Ltd. included a large sawmill at Houston and additional timber reserves in that area. The acquisition raised Northwood Pulp's annual lumber output capacity to about 600 million board feet.

Production

Lumber production in 1972 was 481 million board feet. Production of pulp was 226,000 tons.

Employees

The company employs more than 2,000 persons.

Payroll

Wages, salaries and benefits exceeded $20-million in 1972.

B.C. Chemicals Ltd.

Owned 41 per cent by Northwood Pulp, B.C. Chemicals now produces 18,000 tons of sodium chlorate annually for sale to pulp mills in the province's interior. The company's plant was recently expanded by 50 per cent. B.C. Chemicals will build a new 20,000-ton plant in 1973 for production of crude tall-oil from pulp mill soap skimmings — a development that has environmental significance by virtue of a resulting significant improvement in the quality of related pulp effluents.

B.C. Forest Products

The joint 58 per cent interest owned by Noranda and Mead in **B.C. Forest Products** is held under a voting trust

agreement by Northwood Pulp.

B.C. Forest Products' assets of about $280-million represent integrated logging, lumber, shingle, plywood, pulp and newsprint operations in British Columbia. The company's net sales in 1972 rose to $163.9-million from $133.3-million in 1971, while net earnings increased to $10.8-million from $5.5-million. Last year, the company produced 537 million board feet of lumber, 273,000 tons of pulp, 240,000 tons of newsprint and significant quantities of shingles and plywood.

Completion in 1972 of the $95-million MacKenzie forest products complex represented a major expansion. The complex includes a 500-ton-daily pulp mill, plywood and veneer plants with annual production capacities of 350 million sq. feet of plywood and 455 million sq. feet of veener, and a lumber mill which started production late in 1971 with an initial annual output capacity of 72 million board feet.

The company's 5,000 employees account for an annual payroll of $54-million, including fringe and statutory benefits.

Vulnerable Industry

Fundamentally, the B.C. forest products industry is on a tenuous competitive basis with forest industries in other countries, according to A. H. Zimmerman, President of Northwood Mills.

The industry pays the highest taxes of any forest industry in the world. An independent study conducted in 1971 on companies representing 60 per cent of the province's forest industry showed that taxes and other government charges took 84.8 per cent of earnings. Between 1966 and 1971, the sales of these companies increased by 37 per cent, compared with a profit decline of 70 per cent over the same period.

Forest industry spokesmen believe that any move to raise stumpage rates, or to increase by other means provincial revenues from this sector, "will only wound the industry that much more."

(Stumpage payments to the provincial government are determined by a formula based on the selling price of lumber and the cost of harvesting. During 1972, stumpage accounted for about one-third of Northwood's logging costs.)

In a recent statement on higher B.C. lumber prices, Gordon Draeseke, President of the Council of Forest Industries of British Columbia, emphasized that lumber prices are established against a world-wide marketing background. "While British Columbia exports 80 per cent of its production, our total production is equal to only six per cent of world-wide consumption and we export our lumber to more than 40 countries."

Northwood Pulp's new small-log sawmill in the Prince George area of Northcentral British Columbia.

He noted that, as lumber prices rise to high levels, some 60 per cent of the increase is paid to the provincial government in the form of stumpage and more than one-half of the remaining 40 per cent goes to the provincial and federal governments in the form of taxes. "More than 80 per cent of any price increase goes to the general benefit of the citizens of Canada."

Volatile background

Although lumber markets strengthened during the past two years and demand for pulp improved in the second half of 1972 and continued its firming trend into 1973, the industry's background is one of volatile price and demand patterns and unsettled labour conditions.

The erratic trends that have characterized the forest products industry are related, in part, to the cyclical nature of the housing and construction sectors — major consumers of wood products — and to demand swings by other large users, such as mobile home manufacturers and the packaging industry.

Work stoppages and escalating labour costs also impair the viability of the provincial industry, especially during periods of declining prices. During 1972 — an unusually buoyant year for lumber products — new two-year labour agreements at the Northwood Group's timber operations raised wage and benefit costs by 23 per cent. Because of the marked upturn in lumber markets in 1972, Noranda was able to report the best results from its forest industry interests since 1961.

Eight Manufacturing Plants in B.C.

Since Noranda's acquisition in 1930 of a substantial interest in Canada Wire and Cable Company — now a subsidiary — the company has emphasized the integration, as far as economically feasible, of major operations from metal mining to the production of end products. In addition, there is an underlying relationship between Noranda's various resource and manufacturing activities.

The expansion of Noranda's manufacturing interests in British Columbia coincided with the steady growth of fabricating activities by Noranda Group companies at many locations throughout Canada, the United States, Latin America and Europe.

Noranda's manufacturing operations in British Coumbia employ more than 800 persons who account for wages, salaries and benefits approximating $7-million a year.

Production from the Group's B.C. manufacturing plants includes copper and aluminum wire and cable, copper tubing and copper and copper-based alloys, wire rope, plastic pipe and fittings, wood products and chemicals. About two-thirds of this output is marketed in British Columbia.

Continued on page 22

New methods of transporting logs to mills are replacing the use of rivers as in this old National Film Board photo.

Travel Trials of a Labour Negotiator

by Pierre Paquin*

The really difficult aspects of my functions as a labour negotiator are not written into my job description — and thank heavens! Frankly, much as I like being at a bargaining table, I don't relish the drama that all too frequently — almost inevitably — unfolds in getting there.

True enough, my body is still in one piece (this is not a complaint!) and no one yet refers to me as 'ole scarface'. But the trials and tribulations of jetting across North American skies, crisscrossing our great land by rail to the very last spike, by cars and trucks, brakeless or otherwise — all these have shaken me right out of my shoes at times. After one gruelling winter rail journey I really did arrive at my destination without any shoes.

Yes, the following events did happen to me and they come right out of my diary:

Have train reservation for overnight trip to Montreal following sleepless 48 hours on account of Murdochville bargaining. Find two nuns asleep in *my* roomette. Commotion follows. Porter tells me it is all a mistake (and so was my later oversight in failing to tip). Settle for uncomfortable seat to Montreal.

A plane trip to Quebec City in the sole company (as I believed) of a monseigneur . . . became aware of another man . . . in a casket. Not a recommended experience before a bargaining session.

A truck ride between Matagami and Noranda — discover truck has no brakes — feels like last ride of lifetime.

A car ride between Noranda and Matagami — brakes excellent — and so was the hospital to which we were taken after a sudden and hard application of brakes caused the car to jolt us out of our seats with unhappy consequences.

Airy Experience

An eventful trip between Montreal and Moncton — in a Vanguard with two engines on fire; full emergency landing procedures at Moncton. Pilot had been good enough to advise us that ground control informed him there was a bomb aboard. Never ran so fast in my life — and for my life — in deplaning. A short five-hour delay at Moncton before takeoff for Bathurst while an investigation was conducted *next* to the plane (where else?). Arrived in time at Bathurst for an 8:30 a.m. bargaining session.

On arrival by train in Mont Joli (February, 1969), find my only pair of shoes misplaced, lost or stolen. Staring out at six feet of snow, felt like shouting — yes, shouting.

A train ride from Toronto to Noranda in the front locomotive. A situation for once entirely of my own making and a thoroughly refreshing experience while it lasted.

Held a baby in my arms in a Montreal-bound plane while the mother, my co-passenger, excused herself. Yes, mommy's little baby was not digesting very well that morning. At a Canadian Copper Refiners company-union bargaining session an hour later, I felt somewhat rejected.

Another eventful plane trip. Chartered aircraft to Charlo, New Brunswick. The pilot says, after we get up there, he has "forgotten his maps and, unfortunately, the plane navigation equipment is not functioning." Instead of flying north to Charlo, the pilot finished up flying his single-engine machine over a U.S. Strategic Air Command base in Southern Maine.

Did I mention the ski-doo ride? The machine broke down, of course and, of course, in front of the union local hall!

Following signing of the Orchan labour agreement, accepted invitation for a relaxing fishing session on Matagami Lake. Should have known better with my record. Lost on the lake for three hours, we ended up almost literally in the Bell River Rapids. I find a way of doing it by water, too!

Finally, a few weeks ago, wise after 10 years of mishaps, I decided to travel by train between Toronto and Montreal. Well, it happened to me again — the train was derailed.

Would you believe I'm most relaxed when sitting at a bargaining table? If you don't believe it, why not fly with me and see for yourself?

**Mr. Paquin is Director — Labour Relations, Noranda Mines Limited.*

Central Canada Potash and the Saskatchewan Prorationing Program

by M. S. Scott*

Last fall, the Saskatchewan government ordered Central Canada Potash Co. Limited, under threat of confiscation of the company's mineral lease, to cut mine output by 50 per cent from previous allowed levels. The action, resulting from a disputed new flat prorationing rule limiting (from July 1, 1972) production of all provincial potash producers to about 50 per cent of their capacity, had several immediate adverse effects on Central Canada Potash. Among these:

The company was forced to forego, without any offer of compensation, a substantial portion of contracted markets that had been acquired at considerable cost in 1965 — four years before initial production started at the company's Colonsay mine. Loss of profit resulting from the imposed reduction on output and sales is estimated at more than $500,000 a month.

The Canadian-controlled and managed company was compelled to share its markets with other Saskatchewan producers, the majority of which are controlled by foreign companies whose mines in New Mexico and elsewhere are operating at close to capacity. In effect, Central Canada Potash was forced to subsidize other producers who brought their Saskatchewan mines into production without assured markets for their output capacity.

Central Canada Potash was prevented from obtaining normal advantage of the federal government's three-year tax exemption for new mines. The tax exempt period will end on December 31, 1973.

In human terms, the consequences were severe: the forced output reduction resulted in the loss of more than 100 jobs in a region where the company is a major employer. Through the efforts of Central Canada Potash and federal Manpower officials, alternative jobs at other Canadian mines — including some Saskatchewan potash mines — were offered to the redundant employees, but only 25 per cent of those laid off were prepared to relocate by year end.

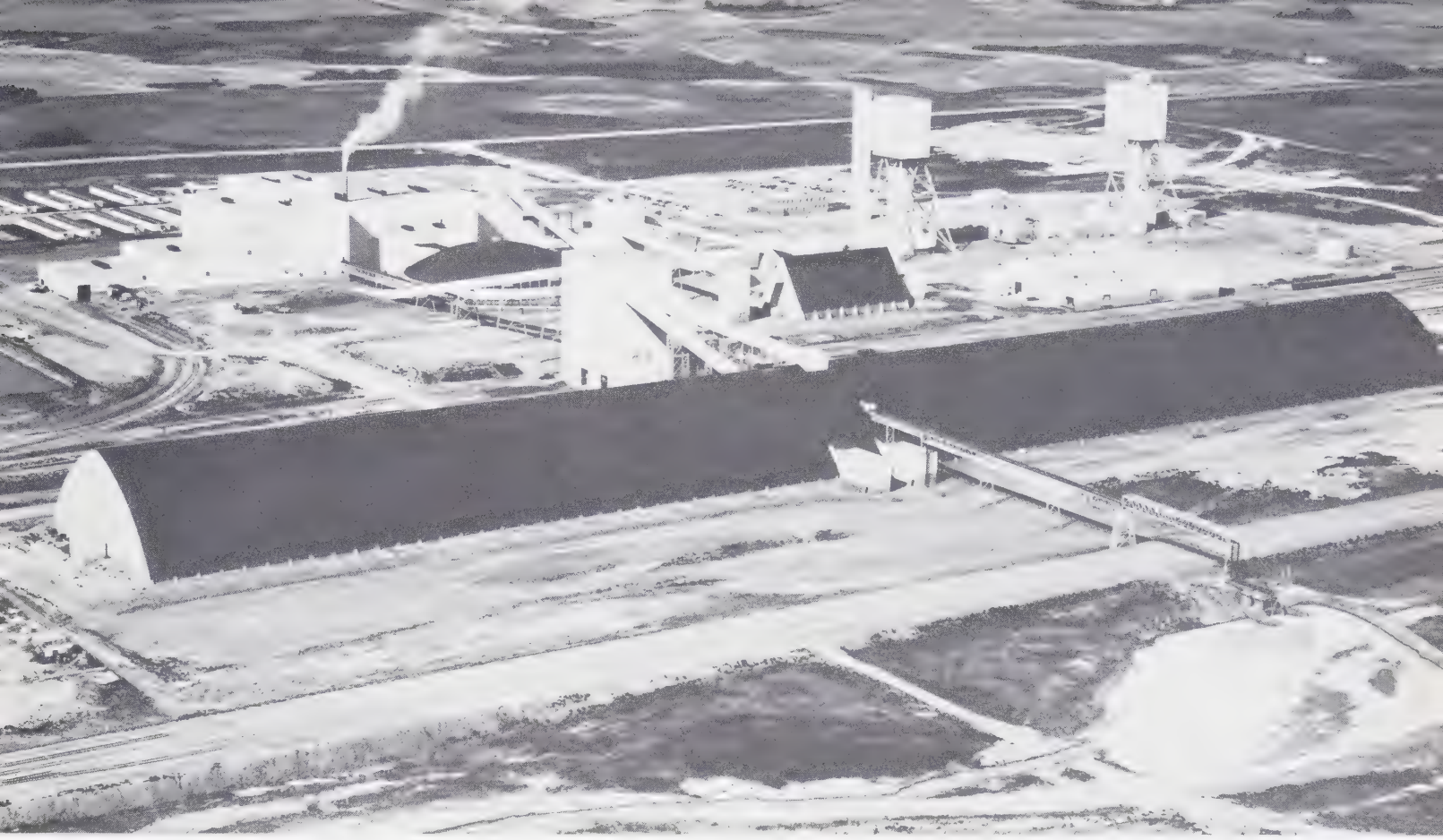
A mine capable of generating new wealth and continuing support to the province's economy was left with sizeable idle capacity, while Saskatchewan's foreign-controlled producers, protected by the province's program, were operating their mines abroad at more than 80 per cent of capacity. The foreign operations of these producers are not bound by the production, price and inventory regulations governing the Saskatchewan industry.

Broader human and economic factors were involved: Noranda Mines Limited of Toronto, which is 93 per cent owned by 32,000 Canadians and heads a group of companies that employs some 23,000 Canadians, has a 51 per cent interest in Central Canada. The remaining 49 per cent is owned by CF Industries Inc. of Chicago, a leading U.S. producer and distributor of chemical fertilizers. CF Industries represents a North American co-operative movement of two million farmers, including 35,000 members of the United Co-operatives of Ontario. Central Canada Potash was incorporated in 1970 as the mine's operating company.

Reasons given for Program

The Saskatchewan government's proposal in 1969 to introduce a system of production controls and a minimum price was influenced by a belief that survival of the provincial industry was in jeopardy. Annual productive capacity had risen from 1.3 million tons K_2O from one mine in 1962 to more than eight million tons from 10 mines in 1971 and severe over-capacity was then evident in the world. Prices were depressed and there was a threat of U.S. legislative action against potash imports following dumping charges and subsequent convictions against French, Canadian and West German producers.

(In 1969, the U.S. market accounted for 64 per cent of Saskatchewan's potash sales which represented 48 per cent of the U.S. market. In 1971, the U.S. bought 69 per cent of Saskatchewan's potash, representing 57 per cent of the



The $95-million Central Canada Potash operation in the Colonsay area of Saskatchewan was brought into initial production late in 1969 — four years after firm sales contracts for the mine's production had been completed.

U.S. market. Between 1969 and 1971, Saskatchewan's offshore sales dropped from 29 per cent of total shipments to 26 per cent. They have risen only moderately since. Total provincial potash exports account for some 97 per cent of sales.)

On January 1, 1970, the government introduced a potash prorationing and price stabilization program under the Potash Conservation Regulations — passed in November, 1969. The proration program consisted of a three-part formula that took into account productive capacity, estimated markets and inventories. In essence, it assured each producer a 40 per cent operating rate and allowed those with markets to produce whatever they could sell above the base operating level.

During the program's first six months in operation, some minor modifications were necessary and became effective July 1, 1970. Producing licenses were issued on an annual (fertilizer year — July 1 to June 30) instead of a quarterly basis. The proration formula remained unchanged, but disposal licenses, required under the original regulations, were eliminated.

A royalty based on grade of ore and selling price of unit of K_2O had been introduced some years earlier by the Saskatchewan government and averaged about 50 cents per ton of product. Although the royalty rate was frozen, the present provincial administration introduced a new prorationing tax of 60 cents per ton of product in 1972. This has resulted in a combined royalty and tax payment to the government of about $1.10 per ton of product.

Pressures Predicted

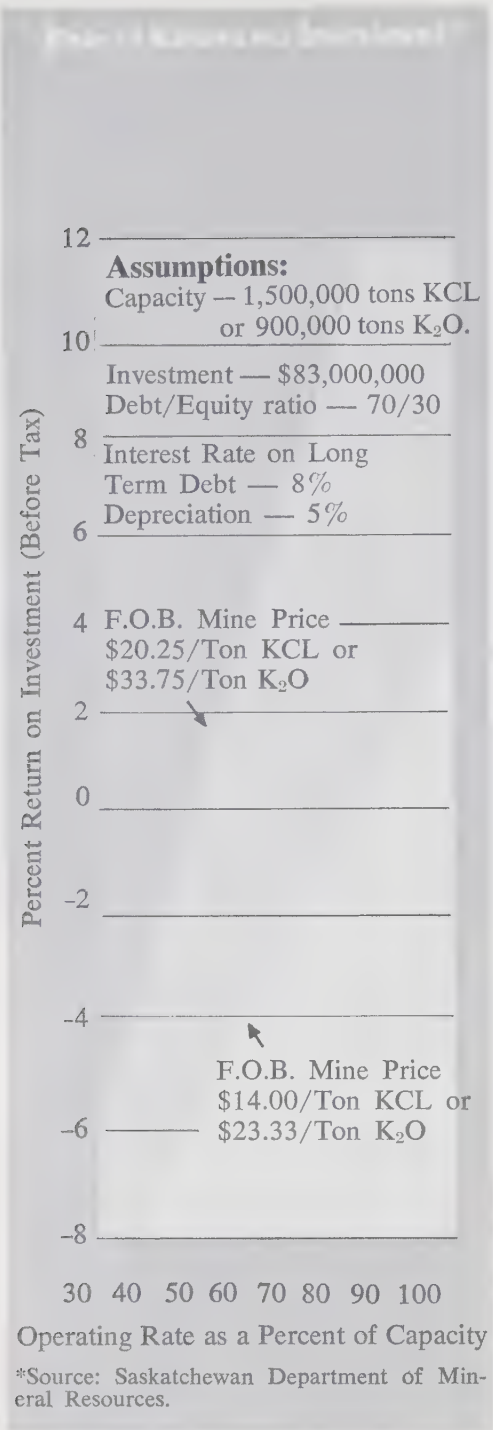
Even before the prorationing and price stabilization program came into effect, Noranda questioned the efficacy of the government proposals. The company had anticipated the situation that arose in the world potash industry during the late 1960s and, as early as 1964, had started to tailor its plans accordingly.

In that year, the company acquired the Colonsay potash property. Its exploration coincided with the commencement by Noranda Sales Corporation of an extensive world-wide survey of potash markets. From its analysis and projections, Noranda was convinced that a period of severe potash over-supply would prevail at least through the mid-1970s, although world supply was in reasonable balance with demand in 1964.

During the 1960s, some other producers and potential producers were predicting consumption growth rates, founded on theoretical requirements of developing countries, that far exceeded the six per cent annual growth rate expected by Noranda. In view of its own projections, and following its established policy, Noranda decided to secure a firm market for a large portion of its potash before bringing the Colonsay mine into production.

Sales negotiations initiated in '64

Sales negotiations were initiated by Noranda with CF Industries Inc. (then known as Central Farmers Fertilizer Company) in December, 1964, and were successfully concluded on July 1, 1965. The agreement assured Noranda ,of a long term market in return for which CF Industries was given an option — later exercised — to buy a 49 per cent interest in the Colonsay project. All but $8-million of the mine's $95-million capital financing was raised by Noranda, which held about $71-million in income debentures of Central Canada Potash. The cost to Noranda of acquiring the new market was about $40-million. CF Industries, in anticipation of deliveries from Central Canada, made large investments in expanding its distribution and marketing facilities.



*Source: Saskatchewan Department of Mineral Resources.

As a result of the agreement, the proposed Central Canada operation would be co-ordinated from mine face to the farmer's field. This would involve advantages not only for Canada and Saskatchewan, but also for the company's employees, its shareholders — direct and indirect — and a participation in a Saskatchewan resource by a farm co-operative movement whose U.S. and Canadian membership exceeds the combined populations of New Mexico and Saskatchewan.

Prudence Emphasized

The Noranda - CF Industries agreement was cited as an example of prudent planning by Fortune Magazine in its issue of June 1, 1968. The magazine emphasized "the relatively little attention to marketing" by most basic fertilizer producers then engaged in what it called "the burst of expansion" that would lead to additional fertilizer being poured into markets during the following five years.

Fortune commented: "The (fertilizer) industry looks with envy on the marketing structure of Central Farmers Co-operative, which was formed in 1946 to provide fertilizer to farmers at the lowest possible cost. Central Farmers sells all grades of chemical fertilizers to 21 regional co-operatives, which in turn supply 7,500 sales outlets in 43 states and Canada." (CF Industries now has 18 regional co-operatives and 6,000 outlets due primarily to mergers and consolidations.)

Fortune, which described the co-operatives as "the strongest, most cohesive force in the industry," said the contract with Noranda would strengthen their ability to hold their share of the retail (fertilizer) market "irrespective of the price policies of their commercial competitors." It was emphasized that Central Farmers and its co-operatives were never the first to "lead prices downward."

Efficacy of Proposals Questioned

It was against this background that Noranda, in 1969, questioned the concept of prorationing before the Potash Conservation Regulations, on which the subsequent program was based, were passed. In a brief submitted in December, 1969, to the Potash Conservation Board, a body formed by the government to administer the proposed program, Noranda summarized its position on the prorationing proposal as follows:

– To succeed, a realistic system of prorationing must recognize the committed markets of each producer.

– Any prorationing program should be for a short period.

– Co-operation of all major world producers in reducing production would be essential. In other words, Saskatchewan, with less than 30 per cent of world productive capacity, should not unilaterally embark on a prorationing scheme without an undertaking of co-operation by foreign producers.

– Voluntary industry action was practicable and would be preferable to the government's proposed program.

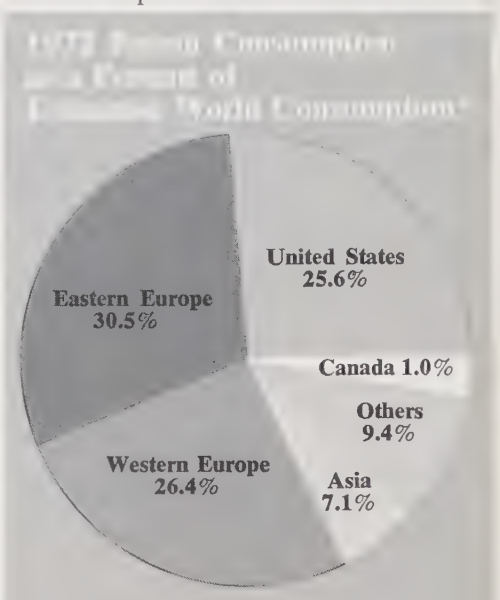
Noranda's brief stressed that if the proposed program could at any time have the effect of causing the company to forego committed sales or of forcing Central Farmers to forego committed purchases, the company would regard the scheme as untenable and as constituting undue interference with the respective contractual rights of both Noranda and Central Farmers.

The brief opposed the government's proposal for a fixed potash price on four main grounds:

– Foreign producers would know at all times and in advance what the minimum Saskatchewan price would be and non-Saskatchewan producers would be able to undersell producers in the province.

– Producers in the United States — Saskatchewan's largest market — would not be bound by a fixed provincial potash price. U.S. anti-trust laws would exclude either a voluntary or legislative move to fix the price of U.S. potash output.

– Foreign production costs are sufficiently low to allow foreign producers to sell potash at prices significantly below the proposed Saskatchewan floor price.



*Source: Saskatchewan Department of Mineral Resources.

—The proposed Saskatchewan fixed price could be circumvented by various schemes or private arrangements such as the granting of special payment terms, or post-shipment freight absorptions.

The brief argued that a controlled Saskatchewan potash price would simply provide an economic umbrella for producers outside Canada.

Despite its strong and continuing reservations about the concept of prorationing and its opposition to the fixed price proposal, Noranda, through Central Canada Potash, co-operated in what was then understood to be a temporary program of prorationing and price stabilization designed to ensure continuity of the province's potash industry.

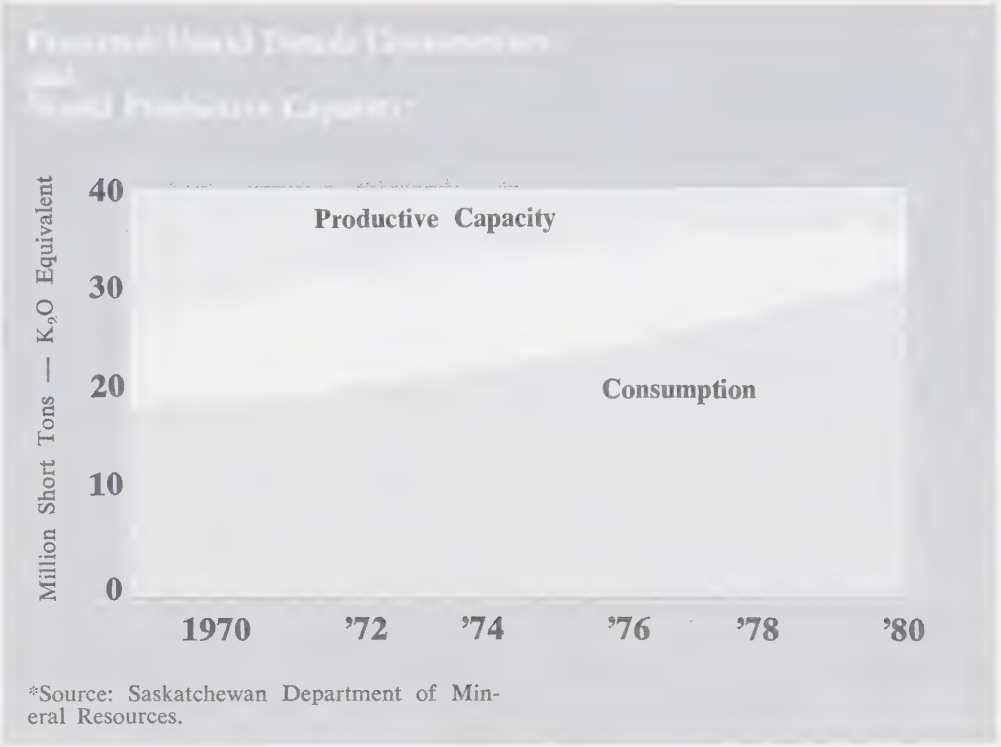
Major Revisions

The ground rules under which Central Canada Potash operated since 1970 were altered drastically in 1972 when, effective July 1, the provincial government introduced the new flat proration rate of about 50 per cent of each producer's capacity, regardless of existing market commitments. Under the new regulation, a producer such as Central Canada Postash — with contracted markets well above those permitted by the revised production rule — is required to turn over its "excess market" to producers unable to sell their allowable output. The new provision also required that, on the sale by all producers of their allowable production, inventory reductions be on a prorata productive capacity basis to cover any increased demand.

Main reasons advanced by the Saskatchewan government for the revisions included administrative difficulties related to the original program; difficulties in accurately estimating market needs for each producer; price pressures resulting from supplementary allocations and co-producer discounts.

The new flat production rule — the major revision — was similar, however, to a proposal made in a brief by an unnamed producer and circulated within the provincial industry in the fall of 1971 by the Saskatchewan government. Although the brief's basic proposal was supported by other producers with marketing difficulties, it was opposed by Central Canada Potash on the grounds that it gave no consideration to a producer's existing market commitments and to heavy investments made in marketing-distribution systems.

The government accepted the brief's basic proposal for a flat production rate. Central Canada Potash, which had never before been denied a license to produce, was issued a license to produce 730,000 tons of muriate, or about 505,000 tons less than its sales commitments of 1,235,000 and almost 400,000 tons less than it had been allowed to ship during the 1971-72 fertilizer year. Continuing to operate at the rate previously allowed, the company was ordered by the government in September, 1972, to reduce output by 50 per cent under threat of severe penalties.



*Source: Saskatchewan Department of Mineral Resources.

The Saskatchewan government's public statements that chaos would result in the provincial industry if Central Canada Potash secured the license it sought ignored the fact that the company is fully co-ordinated from mine to end user.

References to potash prorationing in the same context as prorationing in the domestic oil producing industry — which has no similarity to potash — have not recognized clear distinctions in the characteristics, deposits, practical conservation, recovery, refining and marketing of the two different minerals.

Because it is fluid, crude oil may flow within the same reservoir from one producer's lease to another. Under a uniform drilling unit system, separate lease ownerships may be pooled and production from a single well shared between several producers. Orderly spacing of wells ensures producers an equitable share in crude oil. Crude oil production prorationing also allows operators without refineries to market their crude in refineries owned by larger producers and, in this way, receive advantages of volume output and marketing.

These conditions do not apply to the potash industry. Deposits of potash — a solid mineral — are delineated. Each producer has operating control over its resource and each producer also has the required processing capability.

'Benefits and Fair Prices'

The position taken by Central Canada Potash is not supported by other producers for obvious reasons.

International Minerals and Chemical Corporation of Libertyville, Ill., the world's largest potash producer with mines in Carlsbad, New Mexico, and in Saskatchewan, has described the Saskatchewan program as "a dramatic success." In its own analysis of the provincial industry released in April, 1972, IMC concluded, in part, that the regulations made possible the orderly exploitation of Canada's mineral resources "to the benefit of everyone, assuring the world a stable supply of potash at fair prices."

With less dramatic emphasis, the same IMC analysis produced statistics that showed the Saskatchewan potash industry operated at only 48 per cent of capacity in the 1971-72 fertilizer year, compared with an operating rate of 89 per cent of capacity for the U.S. industry, of which IMC is the major component. West European producers, according to the same statistics, operated at 88 per cent of capacity and Communist-bloc producers at 92 per cent of capacity. IMC's own statistics suggest an imbalance in the benefits from the Saskatchewan program.

Continued

Estimated World Potash Producers Operating Rates 1971/72

(in millions of short tons K_2O)

Producer	Effective Capacity	Production	Operating Rates Per Cent of Capacity
United States	3,030	2,690	89%
West Europe*	7,050	6,220	88%
Communist-Bloc	8,150	7,460	92%
Canada	8,320	4,010	48%
Total World	26,550	20,380	77%

*Includes Israel and the Congo.

The beneficial impact of the Saskatchewan program on the rest of the world industry is also acknowledged by provincial government sources.

Canadian Exports Off While U.S. Makes Gain

Saskatchewan offshore potash exports declined sharply in the first seven months of the 1972-73 fertilizer year (July 1-June 30), while exports from the U.S. increased significantly. Saskatchewan's exports dropped by 29.6 per cent to 468,505 tons K_2O, while producers in the United States boosted their offshore exports by almost 38 per cent to 448,936 tons.

Total Saskatchewan shipments in the 7-month period were down by more than 17 per cent compared with a rise of almost five per cent in U.S. potash shipments. Domestic production in the 1972-73 period was off by 1.5 per cent, compared with an increase of 4.6 per cent in U.S. production, according to the Potash Institute of North America.

Price Umbrella

In a recent review of the Saskatchewan program, Mr. D. A. Karvonen, a mineral resources engineer in the provincial Department of Mineral Resources, noted that the province's floor price has become the basis for world potash pricing. He continued: "This price ($33.75 per ton K_2O) makes potash mining economic where ore grades are lower and mines are older and less automated than in Saskatchewan. The minimum price has also allowed other world producers to operate near capacity."

If the Saskatchewan minimum price has served as a basis for world potash pricing, it has not — as the brief circulated by the government last fall pointed out — restrained foreign producers from selling their product at whatever price is set in the world market outside Saskatchewan.

Neither has there been strict observance within the Saskatchewan industry of the floor price. As Mr. Karvonen commented in his review, price competition (within Saskatchewan) was exercised in many "subtle and devious ways." He cited bids on Canadian Aid tenders. "Although this market is truly a captive market for Canadian producers, several means were found for skirting the rules with respect to price to obtain the additional (tonnage) volumes for a specific producer."

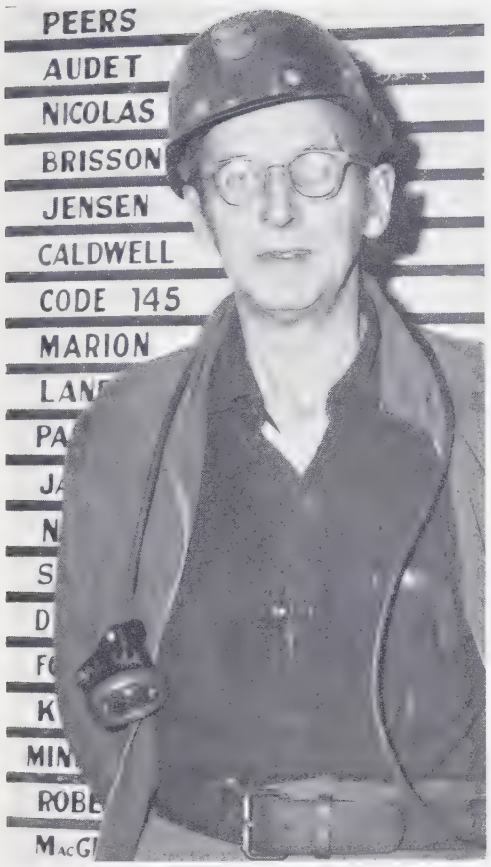
The Saskatchewan courts in 1972 disallowed Central Canada's request for a writ of mandamus to issue a production license for the tonnage required by the company to meet its contract commitments. A subsequent appeal to the Supreme Court of Canada was unsuccessful.

Central Canada Potash filed an action on December 11 last in the Saskatchewan courts challenging the constitutionality of the potash conservation regulation. It also filed a claim for damages for loss of markets.

**Mr. Scott is Manager, Chemical Products, Noranda Mines Limited and Assistant to the President, Central Canada Potash Co. Limited.*

Underground at Central Canada Potash.

Miner at the Horne



After 46 years of operation and the production of more than 57 million tons of ore, Noranda's Horne mine in Northwestern Quebec will close following exhaustion of ore reserves in 1974. The mine has been the financial base on which Noranda Mines Limited established and expanded its Canadian and international interests in exploration, mining, manufacturing and forest products. The men involved in the Horne's discovery, its development, planning and eventual financing and management have earned their right to recognition. In this, the Horne's last full year of production, a special acknowledgement is appropriate for the contribution by men who mined the Horne's copper-gold ore. The following is a short profile of one of those men.

Anker Jensen leaned forward on his living room sofa, moved a firm hand over his greying hair and sent his memory across the 34 years he has worked as a Horne miner. He summed it all up in a few words: "That's how it was . . . hard but satisfying and I have no regrets."

The Danish-born miner, now in his 64th year and a senior shift boss, first went underground at the Horne as a mucker on July 20, 1934. He will be there when the last ore is extracted — probably in mid-1974 — almost 47 years after the first 10,740 tons of Horne ore were delivered to the nearby smelter.

The Horne mine was the base on which Noranda built its international mining and industrial enterprise. Anker Jensen and hundreds of others like him — men of varied national origins — are, in their own way, an integral part of the Horne's background and of its contribution to one company's growth and the economic support it has given to a broader constituency.

Mr. Jensen's employment file, like those of thousands of other Canadian miners, catalogues some necessary, but impersonal-sounding, data:

Anker Jensen, born 1909 in Jutland, Denmark. Started work as a mucker at the Horne mine on July 20, 1934. Left the Horne on April 10, 1941, to join the Royal Canadian Engineers. Returned to the City of Noranda in October, 1945, following war service in Europe as an RCE sapper. Married the former Audrey Coghill of Elk Lake in November, 1945. Appointed a shift boss in July, 1950. Surviving children: Peter Kenneth (born in 1946); Neal (born in 1952) and Jill Audrey (born in 1956).

It is cold, a paper capsule of a man's life, but that is the way with files: a file is not meant to convey impressions of a miner's yearning for gardening, for reading, or hunting and fishing. It cannot capture the humour evoked by recalled experience, or suggest the enlargement of a man's personal life through his family.

There is, for example, the pride Mr. Jensen shows when he speaks of his children; of the summers spent underground at the Horne by his oldest son, Peter, to help meet tuition fees for his education. These summers helped him through the University of New Brunswick and, later, the University of Alberta where he graduated with a master's degree in physical education. Peter, now married, is a high school teacher in Victoria, B.C.

He thinks about his other children: 20-year-old Neal, a business administration student at Northern College in Kirkland Lake. Neal has also worked at the Noranda property during summer vacations. A 17-year daughter, Jill, is a student at the Nova Scotia College of Art and Design.

Mr. Jensen and his wife, Audrey, agree there are compensations in having a widely-dispersed family. Reunions at Christmas have an extra gaiety when distances are closed. Vacations, too, can be planned in include visits to their children. During a recent vacation trip to Nova Scotia, he went back to the farm where he worked for a year in his first Canadian job after his arrival in 1930.

Wild Country?

"Around that time, my own family in Denmark thought I had gone to a wild country, I remember my mother writing to ask if I had a bed to sleep in."

The young immigrant was able to ease his family's concern on both counts. He did, indeed, have a bed to sleep in, $25-a-month, and his keep on the farm where he had no set hours of work. The adjustment to work in Canada was smooth — he came from a farming background in Jutland — and was certainly easier than becoming proficient in English or becoming accustomed to Eastern Canadian winters. "I had never seen so much snow in my life as during that first winter in Nova Scotia."

Leaving the farm in 1931, Mr. Jensen got his first taste of underground mining when he was hired as a miner at a Nova Scotia salt mine. Today, he makes

it sound as if this job, which lasted until 1934, gave him a life-long aversion to salt. "It was dry underground and the taste of salt was in your mouth all the time." But 1934 was not a time to be finicky; jobs were at a premium, even if a man's pay was not. As a salt miner working a short week of two 10-hour days, his pay averaged 28 cents an hour.

With three co-workers, he was lured to Ontario by reports of work available in the Northern Ontario gold camps. The four made their way to Timmins and Kirkland Lake. Their search for work proved fruitless. "At Kirkland, we were told to try Noranda, a place we had not heard of before." Within days of arriving in Noranda, the four were hired to work underground.

The 53-cents-an-hour that Anker Jensen was paid in 1934 as a Horne mine mucker for a 48-hour week was "good money then." Work at the Horne, he recalls, meant the end of short time. "Right through the remainder of the depression years, we had a full week's work." From hand mucking — a job that has long since been taken over by machines — he progressed to driller's assistant and then, in 1936, to driller, with a boost in pay to 60 cents an hour.

War-Time Sapper

He continued as an underground driller until 1941 when he joined the Royal Canadian Engineers. Shortly after the invasion of Europe in 1944, Sapper Jensen went into active service with the RCE in Europe. He was with the advancing Canadian forces when Germany surrendered. One of his lingering regrets today is that he was unable to return to Denmark while he served in Europe to meet his two brothers, three sisters and their families.

Returning to Canada in October, 1945, he married the former Audrey Coghill of Elk Lake in the following month. It was double wedding ceremony involving the new Mrs. Jensen and her sister, Alma, who married George Pratt of Noranda.

Anker Jensen returned to his underground drilling job at the Horne in January, 1946. In four years he was appointed a shift boss. Now a senior shift boss, he earns more than $11,000 a year. This year, he completes 38 years as a miner — 34 of those years at the Horne operation.

After almost four decades in underground mining, he talks about the inevitable improvements he has experienced in working and safety conditions, the increased mechanization that has eased the miner's work and at the same time upgraded his skills, the improved pay, other benefits and the special companionships of mining. "We're down there in a world by ourselves and I feel there's a different . . . closer . . . relationship between men who work underground."

Due to retire in 1974, Mr. Jensen has no firm plans about where he would like to spend his retirement years. But the Jensens emphasize their deep affinity with the local community. They like its size and they value friendships that have endured over many years. Mrs. Jensen enjoys her work for the local United Church, the day she spends each week helping at the Noranda Memorial Library, her French-language lessons. It is difficult for people like the Jensens to wrench themselves away from a community in which they have deep roots.

"Almost like starting a different life without friends," muses Mr. Jensen as he skirts the possibility of living his retirement years in some other place.

When a man's summer activities over many years have been concentrated on his garden — even in a community where the growing season is short — it's, well, unsettling to walk away from that permanently.

Understanding Corporate Taxes, Depletion and Allowances

"... each economic (mineral) discovery in Canada is calculated to cost $30-million. When one considers what this means in terms of barren effort, it is extraordinarily difficult to imagine the explorers are getting any government 'handout.'"

by A. H. Zimmerman*

Accounting for corporate profits requires considerable knowledge to convey to readers of financial reports a full understanding of results. It is conceded that communicating its financial results and activities is rarely a corporation's strongest quality.

The accounting profession, of which I am a member, is at least partly to blame for the loose interpretations that can be attached to financial statistics, allowing some politicians to make widely-publicized critical statements which, charitably, can only be called half-truths and innuendo. The lack of standardization and general understanding of accounting terminology and practice has given critics plenty of scope.

Earnings' figures quoted as a tax base by critics were, generally, earnings calculated before interest, depreciation and taxes. Taxes, of course, are calculated only on earnings after such charges. Figures used against corporations showed lower, but misleading, tax rates because the divisor was enlarged. The terms 'net earnings' and 'net profit' should be clear in their meaning to everyone, but unfortunately they are not. It is appropriate then to examine factors that bear directly on profit levels.

Depletion

The purpose of depletion is to provide for return of the cost of an asset over its useful life. Taxes are quite properly levied only on profits after depletion allowances. Under present tax law, the investor gets his cost back only once through depreciation and is taxed on all the profit over and above his cost. The only question is how quickly he is taxed.

Compared with individuals, corporations have a more difficult problem in determining book depreciation. They may have many classes of assets, all of which have to earn enough to pay for themselves and, ultimately, to provide funds for their replacement plus some profit. The same asset may have a different life in one use than in another and some assets depreciate most heavily in their early years. Even geography and climate have a great effect; a car in Windsor, for example, lasts longer in average use than one in North Bay or Prince George.

For practical reasons, the federal Government in 1949 established different classes of assets, the reducing balance method of depreciation and maximum allowable rates. Because of the method adopted, the percentage rate is more equitable than it would be on the straight line basis used by many companies, resulting in greater allowance for tax purposes in the early years than would be recorded in the company's own accounts.

Consider, for example, equipment costing $100 and believed to have a 10-year life. A company might write it off at $10 a year, but the tax man allows it to be written off at $20 in the first year, $16 in the second year and so on, until, after 10 years, only $89 is absorbed. In the first four years, the tax allowance is equal to or greater than your own charge by an aggregate $19. At a 50 per cent tax rate, this means that $9.50 of taxes are deferred for payment beginning in the fifth year and thereafter when the tax allowance is less than book depreciation. This has been described by some critics as "a ripoff."

Similar Benefits for Individuals

The corporate arrangement is similar to the one available to individuals who have registered savings or pension plans. Money contributed to such plans up to a maximum of $2,500 annually is deductible from present income for tax purposes, since tax is collectible when the pension is paid. This, in fact, is a better deal than corporations are given because, with our graduated tax system, the allowance probably involves a bigger saving than the ultimate pension repays in tax. This point needs emphasizing because it is one area in which it has been suggested that governments pander to business. Certainly, the result of the capital cost allowance rules is that companies can defer sizeable amounts for tax payments. But, at the same time, because of inflation, costs of new or replacement fixed assets are escalating far more than the interest saved.

Establishment of an electrolytic zinc plant, for example, costs twice as much today than it did seven years ago. A

30,000-ton-daily open pit mine costs 25 per cent more to bring into production in 1973 than it did four years ago. A pulp mill costing $86,000 per daily ton in 1967 would cost $125,000 on the same basis today. This simply means that the economic value of assets in place is greater than their cost and, as it happens, the tax regulations make no allowances for this.

It could be argued that appraised replacement values should be the basis for depletion. In the case of the zinc plant, the depreciation, on the basis of this argument, should be established on twice the amount today than was used in the year the plant was built. Such an approach would recognize that not only does an asset have to pay for itself by providing funds for its replacement through depreciation, but substantially more funds will have to be found at the replacement date. This surely, is the real use to which deferred taxes are directed.

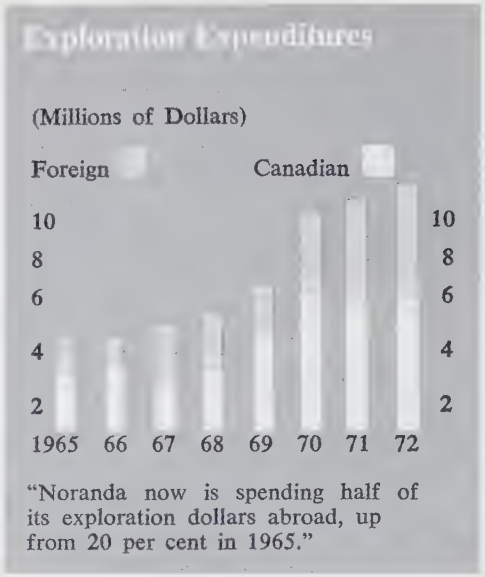
In the case of Noranda Mines, these amounts are not excessive. Over the past five years, the company's accrued taxes totalled $177-million, but only $26-million was deferred and the remainder paid. I would estimate that inflation in the cost of replacing those fixed assets in the same period would be about 10 times that amount.

'No Giveaway'

The question of depletion is a large one, but the concept is fair. It is the rate that is arguable. Depletion rules, because you are working a wasting asset, entitle you to an extra return to permit the extra expense necessary to discover the replacement.

Previously, this allowance was one-third of taxable mineral income, but it is now to be earned at the rate of $1 for every $3 spent on exploration, development and related capital expenditures. Significantly, this is not a giveaway — companies have to spend to receive. Experience will show if this is a competitive rate. Noranda now is spending half of its exploration dollar abroad, up from 20 per cent in 1965. Although mineral exploration remains intensive in certain areas of Canada, virtually no current plans exist for significant new Canadian mining developments.

Through the selective use of statistics, a distorted argument was advanced in the 1972 federal election campaign to 'demonstrate' that the 762 mining companies which paid any tax in 1969 paid at an effective rate of 18 per cent. The total number of 'mining' companies mentioned presumably included both



"Noranda now is spending half of its exploration dollars abroad, up from 20 per cent in 1965."

mining and oil companies, although this rather important distinction was not made. No mention whatever was made of provincial taxes or royalties, oil royalties, or municipal taxes. As far as Noranda is concerned, its federal and provincial taxes in the five years ended December 31, 1971, were at an effective rate of 48 per cent of taxable earnings.

Understanding Exploration

Although capital cost allowances have been a major target of criticism, allowances for exploration and development expenditures have also come under attack.

Obviously, exploration and development expenditures represent outlays of capital that often prove worthless. If the tax law did not allow a writeoff for these expenses, many currently active companies would go out of business in half the time they do now — if, indeed, they could be established in the first place. These are the junior exploration companies which abound in the mining and oil sectors and are the vehicles for small capital frequently combined with unique ideas and enterprise. Infrequently, one of these smaller exploration companies 'strikes it rich' and forms the basis of a major enterprise of benefit to the economy.

Mineral discoveries can be made by any size of exploration venture, of course, although the odds favour larger corporations, which provide the biggest budgets. Noranda Mines, for instance, spends more than $10-million annually on exploration, a sector in which each economic discovery in Canada is calculated to cost $30-million. When one considers what this means in terms of barren effort, it is extraordinarily difficult to imagine the explorers are getting any government handout.

One of the fundamentals of our tax and economic system is that it be competitive with the other alternatives elsewhere. Mineral discoveries at $12-million each in Australia are considerably less expensive than in Canada. The United States offers generous depletion allowances, tax-free financing in some circumstances and tax rebates through its Domestic International Sales Corporation (DISC) program. Ireland levies no tax on mines for 20 years and the European Common Market now may well be the most attractive place in the world for manufacturing.

Currently, the effective tax rate for mines in Canada is higher than in Australia or the United States. Canada's forest industry, particularly that sector of the industry in British Columbia, pays the highest tax in the world forest industry. These are facts; suggestions that Canadian corporation are receiving handouts can only be based on a comprehensive background of financial and economic ignorance.

Grant programs

Defects conceded

I can find some common ground with critics of various Canadian grant programs, which are inherently defective unless there are realistic terms for earning grants. Although well-inspired, the programs frequently are poorly executed.

What grant programs do, or are intended to do, is tip the scales toward desirable Canadian social and economic ends. A location grant that places a glass plant in Owen Sound instead of Oshawa, or an IBM plant in Midland instead of Don Mills, is good for the winner and not necessarily bad for the loser. Funds involved probably just balance the extra transportation and administrative costs of having a more distant plant. On the other hand, grants to companies in already over-built and over-crowded industries are a good deal less acceptable.

An industrial research grant that contributes to maintenance of research in Canada by multi-national, as well as Canadian, companies is certainly a good thing. Grants for domestic shipbuilding are demonstrably necessary to maintain such an industry in competition against government-backed industries elsewhere.

The point is that, while various grant programs may have severe administrative deficiencies, they are a response to the real and competitive world. They should keep business in Canada that could go elsewhere, provide the new jobs in the places of greatest need and encourage domestic expertise. They

*Mining Association of Canada & Statistics Canada.

should be a fair and, perhaps, unique type of redistribution of wealth. To suggest grants generally fatten the pockets of the recipients is nonsense.

In the following examples related to the Noranda Group, grants, as a minimum, induced commitment of large investments well ahead of the time when these investments would normally have been made, if ever.

Of a recent $133-million expansion of the Group's copper producing facilities in Quebec, $34-million would have been foregone if $3.2-million in grants had not been available. As part of its expansion, the Group is installing the world's first continuous copper smelting reactor — the Noranda process developed by our own Research Centre with the support of PAIT grants. If the process works as expected, most of the grants will be repaid and Canada and Noranda will gain some economic advantage through licensing and smelter pollution should be easier to control.

A $12-million expenditure was made on two sawmills 18 months ahead of original schedule because of a $1-million grant. The result was probably good for the economy, but we estimate the haste in proceeding with the project caused design errors that resulted in about $1-million or more in lost profits.

Investment Process

Before a corporation makes a capital investment it must assess markets, which in the case of commodities is nearly impossible to do beyond the near term. The company must assess future exchange rates; a one point change in the U.S. exchange rate, for example, means $1.25-million after tax to Noranda. It must assess capital and operating costs and then it must find the money. A major project usually is financed partly by equity (internally-generated funds) and partly by borrowing. Borrowing has a fixed cost, so the equity has to absorb the ultimate profits or losses.

To accommodate the risk factor in a major corporation, the feasible return on equity is normally set at about 15 per cent. Experience has shown, however, that in combination with the low return or absence of return on many ongoing capital expenditures, the corporation's return should be between 10 and 12 per cent. It is an understatement to note that not every company achieves such a return.

Resource base

Unemployment and inflation remain the major problems faced by domestic business and government. Between 1965 and 1970, 100,000 more Canadian entered the labour force than the combined total over the same period in 15 European countries. This includes Common Market and European Free Trade Association nations, which have an overall population 13.5 times greater than that in Canada.

In the same five-year period, Canada, according to the Minister of Finance, provided 400,000 more new jobs than did the 15 European countries, but the Canadian unemployment rate has been more than seven per cent.

Clearly, the problem is not solved even though we are doing well. Our relative success surely relates in part to our system. Private enterprise can respond constructively to well-conceived and wisely administered government policies. Moreover, resource development is the basic building block for secondary industry in Canada and generates capital for, rather than diverting it from, secondary industry. To suggest otherwise is irresponsible and wrong.

**Mr. Zimmerman is Vice-President-Comptroller, Noranda Mines Limited, and President of Northwood Mills Ltd.*

British Columbia Continued from page 9

Year	Lumber (000's M.B.F.M.) Northwood Companies	B.C.F.P.	Pulp (000's of tons) Northwood Companies	B.C.F.P.
1972	669*	537	226	273
1971	400	438	215	221
1970	312	485	244	218
1969	290	486	227	273
1968	250	505	202	256
1967	222	476	147	283
1966	243	393	26	299
1965	61	380	—	240
1964	60	374	—	193
1963	28	311	—	195
1962	27	280	—	188

*Production only. Sales by Northwood Mills in 1972 totalled 1,121 million board feet of lumber including output by the Northwood Group and sales by Cooper-Widman, which is now integrated in the building materials division of Northwood Mills. Plywood sales by Northwood Mills totalled 665.5 million sq. feet in 1972.

The Noranda Group's first manufacturing operation in British Columbia was established by **Canada Wire and Cable** at New Westminster in 1958. This plant, which uses about 1,200 tons of refined copper annually, is one of nine domestic plants at which Canada Wire produces a wide range of copper and aluminum wire and cable. About two-thirds of the plant's production is sold in the province. The plant employs some 50 persons.

In 1963, Noranda enlarged its manufacturing base in the province through acquisition of Western Copper Mills Ltd., which owned a copper tube mill near Vancouver. This plant, now operated by **Noranda Metal Industries Limited,** is the largest of the Group's manufacturing interests in British Columbia. Approximately 75 per cent of the operation's production is sold in the province.

Noranda Metal uses 11,500 tons of refined copper a year at its New Westminster plant. The 266 employees account for wages, salaries and benefits of some $2.2-million annually.

Another important Noranda manufacturing interest is the Vancouver wire rope fabricating plant of **Wire Rope Industries of Canada Ltd.** Some two-thirds of this plant's production is marketed in the province. A modernization and expansion program will be undertaken at the Wire Rope operation during 1973. The plant's 200 employees account for an annual payroll of 1.9-million.

Other Noranda Group manufacturing interests in British Columbia include:

Grandview Industries Limited produces plastic pipe at its Langley extrusion plant. It sells 75 per cent of the plant's production in the province. The plant employs 20 persons.

Canplas Industries Ltd. employs more than 90 persons at its New Westminster operation, which produces plastic pipe fittings. The market for the plant's production is mainly outside of the province.

Ocean Foundries Ltd. operates a grinding ball foundry at North Surrey and supplies mining companies in British Columbia. The plant employs 56 persons.

Tru-Fit (wood fabricating division of Northwood Mills) was formerly operated by Bulkley Valley Forest Industries of Vancouver. Tru-Fit's door manufacturing plant at Burnaby employs 192 persons who account for an annual payroll of $1.9-million, including benefits.

B.C. Chemicals Ltd (see reference under Northwood Pulp).

The capacity to anticipate future requirements is essential, but it has become over-stretched with the rapidity and scope of change

CORPORATE COMMUNICATIONS

by John Meyer*

It hadn't much mattered, until a few years ago, where Canadian entrepreneurs obtained their financing. A common capital market existed between Canada and the United States. During the 1960s, an extension to it could be found in the Euro-dollar market. Canadians could borrow or sell equity with equal facility in New York, London, and Frankfurt.

Now it does matter where Canadian entrepreneurs obtain their financing. The nationality of those who hold title to Canadian assets has become the dominant preoccupation of those Canadians who believe Canada's political sovereignty is compromised by the large proportion of foreign owership in the economy.

Legislation introduced into Parliament early in the post-election session requires Canadian entrepreneurs importing foreign funds, or foreigners acting on their own account, to prove a significant benefit to Canada. The bias in the legislation against the foreign investor is readily admitted. It constitutes a sharp reversal of Canada's traditional policy of welcoming foreign investment.

A reversal of another sort, and far more profound in its implications for the conduct of business, is the introduction of the concept of business activity as having as its prime objective service to the state. This is a complete repudiation of the conventional canons of the free market in which the only benefit that matters is to be found in what the profit and loss figures say.

The rapid growth of economic nationalism and the accompanying doctrine of significant benefit are at present the most visible examples of the change taking place in the parameters of the economy. They overtake, in most respects, the preoccupation with preservation of the environment which earlier held sway with its range of concern from simple pollution to the extreme of specific limits on industrial growth and what this would imply for the redistribution of global wealth.

Transitory Youth

And before that, although exact sequences in time are impossible to define with any certainty, there was the impact of the rebellious young upon corporate consciousness. That has probably made the least lasting impression; youth, after all, is a transitory period. The decline in birth rates following the introduction of the Pill denied the youth movement the momentum it needed to be a persistent influence.

While it lasted, however, it evoked corporate responses which, in retrospect, were more than passing ludicrous as the corporate establishment attempted to come to grips with it. The confessions of a self-made executive were as common and, in essence, as completely lacking in credibility as those heard before the Russian courts during the purges of the 1930s.

Less visible, although no less important for that, have been the consequences for Canadian businessmen of tax reform and the efforts of the federal government to introduce new and, to say the least of them, highly questionable rules for competition.

The Competition Act, long in preparation, was originally introduced in the pre-election Parliament and then withdrawn when it became clear many of its provisions were unworkable. It would have been reintroduced last fall if the election had not intervened. It is to be reintroduced in the present session. Intended to replace admittedly absolete anti-combines legislation, it goes well beyond that limited objective of telling business what it cannot do to break new ground in telling what it must do.

This aspect of the legislation was largely ignored in the objections which greeted its initial presentation. Here is an instance, however, where the significance of the legislation as a whole is of far greater importance than its specific measures. The old anti-combines legislation defined limits for the conduct of business. Businessmen must not combine to create monopolies to the detriment of the public interest; they must not engage in certain practices considered to be unfair.

As long as they observed these prohibitions, however, they were free to conduct their affairs in whatever manner they chose. The new legislation has its share of specific prohibitions. It also permits the authorities to order business to undertake specific actions — in the areas of volume discounting, for example, or the areas of exclusive sales contracts — which cut across conventional business practices.

There is in this the active repudiation of rules set in the market place in favor of rules set by government, a repudiation which surfaces anew in the Foreign Investment Review Act with its doctrine of significant benefit.

Focussing on change

Other forces are at work in the environment in which business functions. The rejection of growth for its own sake, the rejection of such conventional monuments to progress as the trans-city throughway, the high-rise apartment or office building and the new jetport, the emergence in their place of a concern for the preservation of neighborhood amenities: all these are exerting a strengthening influence on corporate decisions.

The preoccupation with communication — in many instances carried to the extreme where the act of communication becomes an end in itself at some

Continued

cost to what is communicated — is an inevitable consequence of the emergence of these forces. It is difficult to say, however, to what extent the new media of communication, ranging from participatory democracy (itself a confusion of terms) to confrontation in the streets have succeeded in clarifying and focussing the thrust of change.

Something of this, in parenthesis, is attributable to the changes in the education system. The complaints of newspaper editors that their junior reporters are unable to spell might be dismissed as unnecessarily fussy. What matters, after all, is that the words are there. Still a carpenter is not expected to work with a dull chisel and words are no less the tools of a journalist. A lack of precision in their employment understandably creates more than passing doubt about the precision of the thoughts they are meant to convey.

Questionable Parentage

And what has all this to do with the function of corporate relations?

The answer is not easily given, however readily it can be discerned in the efforts of its practitioners to explore and define the changes in business environment and feed their findings into the corporate decision-making process. Corporate relations is, after all, something of a bastard specialty, the offspring of forces beyond the capacity of executives to always recognize and deal with, and suffering the usual approbrium of questionable parentage.

Public relations which preceded corporate relations experienced much the same disadvantages in its beginnings but now its functions are clearly defined, its purposes acknowledged. Possibly the achievement of that respectability was helped by the tangible nature of public relations. Its impact could be measured in the frequency of favorable references to its sponsors in the media.

That is, admittedly, a somewhat cavalier dismissal of a function which has become as important to the corporation as the function of the sales department but it does make the point that corporate relations has not the visible role that other corporate services perform. All that is immediately tangible about the changing environment for business is the act of change itself.

Tangible Change from Within

Change is not confined to the external environment of business. It's equally apparent within the corporation and much more tangible in its manifestation. The demand by women for access to corporate positions commensurate with their abilities is one. There is nothing intangible about a woman employee demanding the same treatment as her male colleagues.

There is nothing intangible, either, about the thrust of younger employees towards senior positions. There is very little disposition to wait out the long years before attrition at the top clears the way to positions for which they have been trained and are capable of filling.

The forces that shape the corporation from the outside can also be found at work from the inside. The new employee with strong ideas about what should be done about the pollution from his corporate employer's smokestacks is more likely to encourage constructive remedies working from within the system than working from outside it.

The functions of corporate relations, then, can be seen to apply within the corporation too — again exploring and defining change and how it will bear on the decision-making process.

Corporations are not the monolithic structures they are presented to be. They may have that appearance from time to time in their failure to react quickly to change. But react they must if they are to survive and react in a manner which retains their basic objectives however the means of achieving them are reshaped.

Ability to Anticipate

In this context, the function of corporate relations is to become the agency, even the catalyst, of adaption to change. "I am fed up with having to react," one corporate officer said. "I want to be able to anticipate." And he was indeed able to anticipate when life was less complex than it is now. His capacity to anticipate what products would be in demand and order his manufacturing capacity accordingly, to anticipate his labor and financial requirements was essential to business success.

That capacity is still essential but it has become over-stretched with the rapidity and scope of change. The commonest complaint in the executive suite begins with the words: "If only I had known . . ." Known what lay behind the mechanics of tax reform. Known what lay behind the government's approach to competition. The list is becoming endless, the more so in the extent to which change embraces social philosophy.

The chartered accountants could explain the workings of tax reform but proved singularly inept in discerning and articulating their philosophical consequences. The doctors, for all their professional skill, never fully recognized until long after the fact that they could no longer continue to set their own price for health services in a society where the responsibility for its physical well-being had been assumed by government.

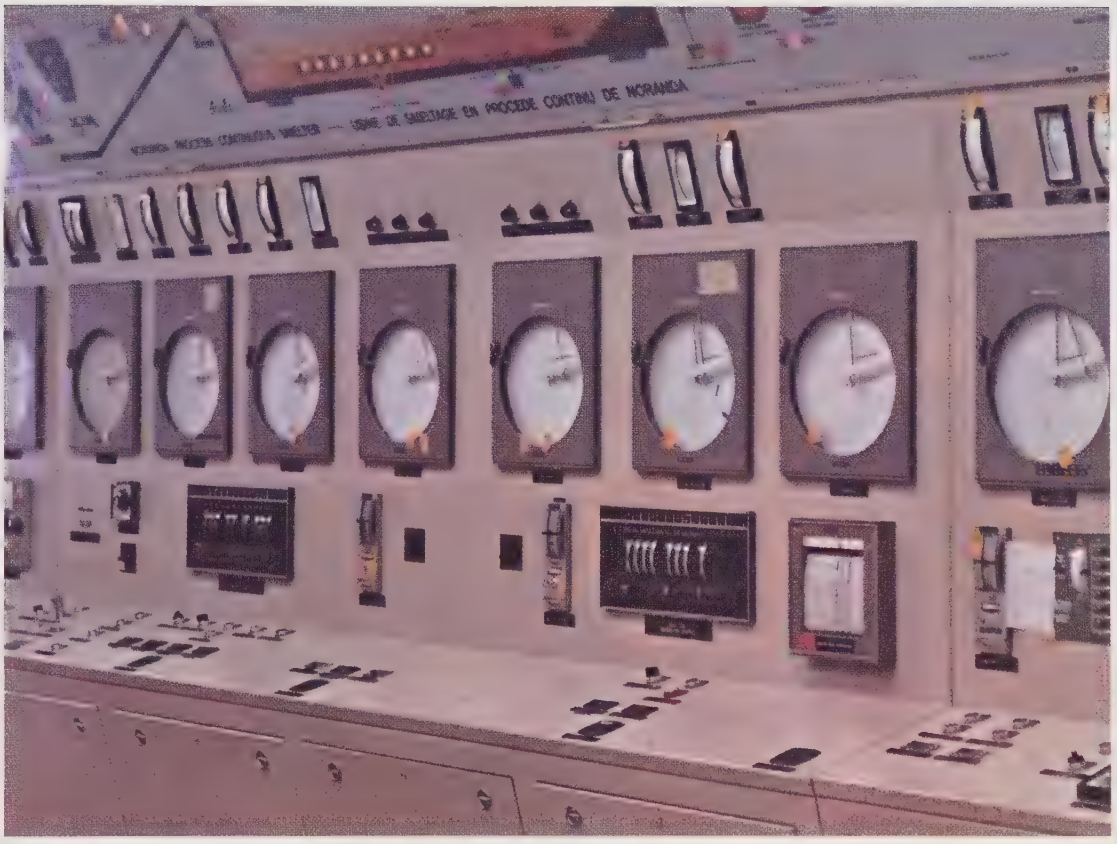
It's probably in this area that the function of corporate relations as the means of communicating change to the corporation and, just possibly pointing the way to the adaption to it, is most clearly discerned. Even so, in the relative newness of this requirement for business most practitioners of corporate relations still function without a formal job description or recognized place in the corporate structure.

**John Meyer, former editor of The Gazette, Montreal, is a syndicated financial columnist. He is also a vice-president of a Montreal-based real estate firm.*

New Noranda Reactor

Ten years of research, development, feasibility and engineering studies are represented in the new Noranda smelting reactor — invented in 1964 at the Noranda Research Centre — scheduled to start production in the first half of 1973. Regarded as a major development in copper smelting technology, the Noranda continuous smelting process will produce copper from copper concentrates more efficiently than present standard smelting processes. Located at Noranda, Quebec, the reactor also incorporates environmental control advantages.

Above: framework for the gas offshoot appears to rise from the reactor, seen beneath the structure. Centre: a section of the control room panel. Bottom, right: closed circuit television will be used to monitor materials handling and other important process stages.



Photos: Reg Pownall

Foreign, Domestic Investment

Noranda's Policy on Partnerships

"As is well known, the high degree of foreign ownership and control in the Canadian economy is a matter of concern to the government and the people of Canada. Accordingly, Noranda readily appreciates the sensitivities of others and tries to behave in other countries as it would like non-residents to behave in Canada."

From a brief submitted in 1972 by Noranda Australia Ltd. to an Australian Senate committee investigating foreign investment.

Noranda Metal Industries and Canada Wire and Cable are among Noranda subsidiaries with manufacturing plants abroad. While Noranda Metal Industries operates in Canada and the United States, Canada Wire and Cable is associated with wire and cable manufacturing operations in seven foreign countries where majority ownership is held by nationals in the host countries.

by E. K. Cork*

Noranda's foreign investment policy is to offer to residents of the host country a one-half interest — at a fair price — in a mining project once its viability has been assured. This policy was established long before Noranda Australia discovered its Koongarra uranium property in the Northern Territories of Australia.

In 1961, Mr. John R. Bradfield, then President of Noranda Mines, outlined to the shareholders' annual meeting the company's foreign investment philosophy as it related to a Chilean copper property then being developed by company interests. He said: ". . . once the risk capital involved is recovered, shares in this project should be offered at reasonable terms to the Chilean public up to 50 per cent ownership. In the case of projects other than mining, with its attendant risk, I believe it makes good business sense when investing in foreign projects to find nationals initially (in the host countries) with whom to participate." Although the mine in question proved to be disappointing and was eventually confiscated by the present Chilean government, the policy announced in 1961 still applies.

Principles Outlined

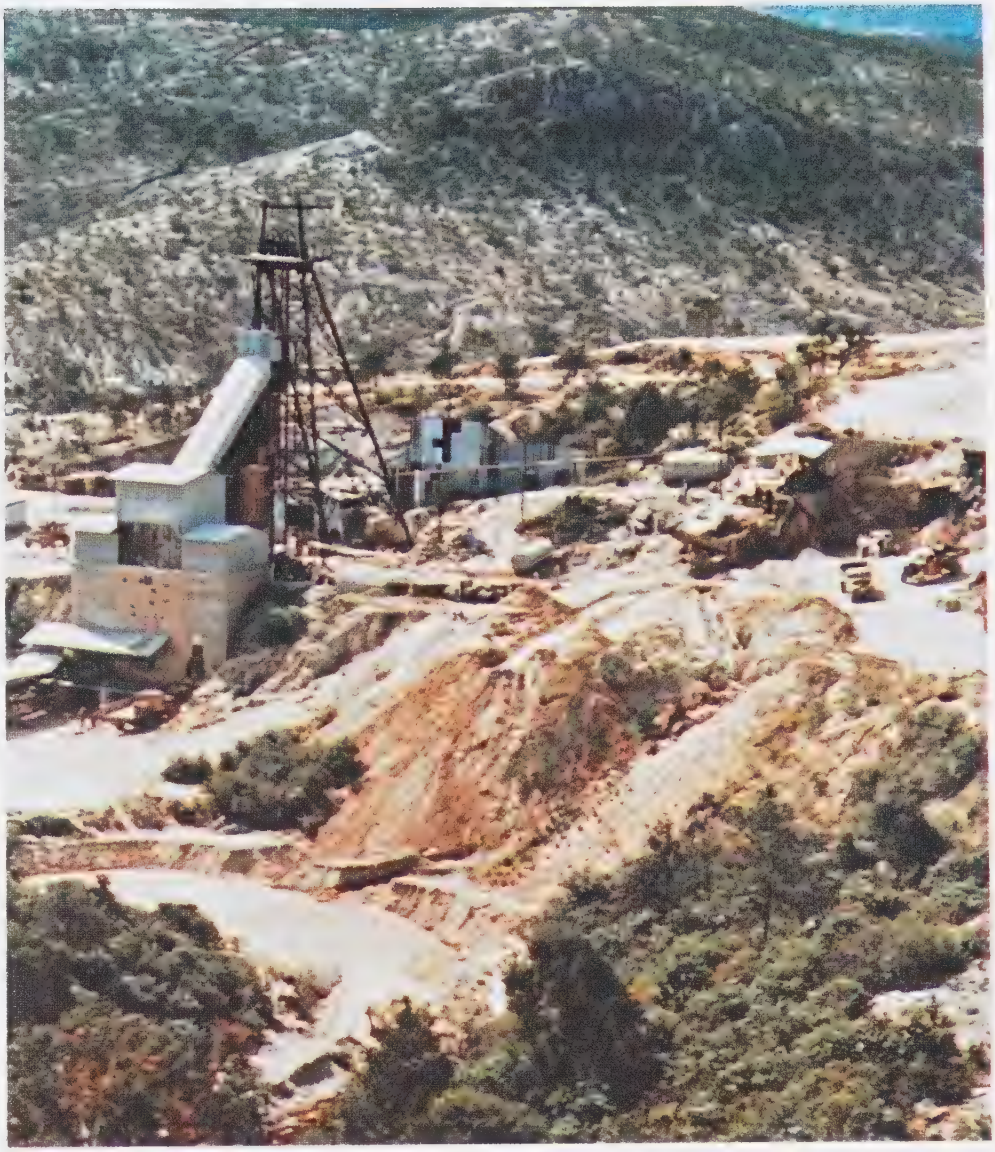
The principles underlying Noranda's approach to foreign investment were detailed in the 1972 brief presented by Noranda Australia to the Australian Senate committee that examined the whole area of foreign investment in that country. The major points of the brief are relevant:

(1) Noranda believes that foreign investment can bring with it real benefits in such areas as capital, know-how, supply and sales arrangements, particularly when it creates an enterprise which would not otherwise exist. For example, high-risk exploration expenditures in the mining industry may result in a valuable new mineral discovery. In the same way, creation of a new manufacturing enterprise based on technology or other expertise not available in the host country is also a benefit.

On the other hand, a foreign takeover of a viable domestic enterprise may not result in any lasting benefit to the host country. Accordingly, Noranda could not object to a mechanism in any country which prevents such takeovers unless a clear benefit to the host country can be demonstrated.

(2) Noranda believes that a foreign company which invests high-risk money in exploration, or which establishes a new manufacturing enterprise, should be entitled to profit from any success it may achieve. At the same time, the company is committed to the principle of partnership with residents of the host country wherever feasible. In the case of exploration this is seldom possible initially, but can usually be achieved when a viable mining operation is assured. In the case of manufacturing operations, it is often feasible to find resident partners from the outset. (Specifically, in the case of the Koongarra uranium discovery, Noranda committed itself to offering a half interest for sale to Australian residents once a viable operation has been established.)

(3) Noranda believes that, as far as possible, its operations in other countries ought to be managed by nationals of the host countries. Where it is not possible to achieve this from the beginning due to a lack of necessary skills or experience, it will train nationals to displace non-nationals as quickly as possible. However, laws that inhibit transfer or employment of non-resident experts often severely delay new developments.



Noranda holds an interest in Mexico's Las Cuevas fluorspar mine — one of the world's largest.

(4) The company acknowledges its operations in other countries should be under the direction of a board of directors of which a majority are nationals of the host country. Moreover, this board — and not the parent company — should establish the policies and framework under which the management will operate.

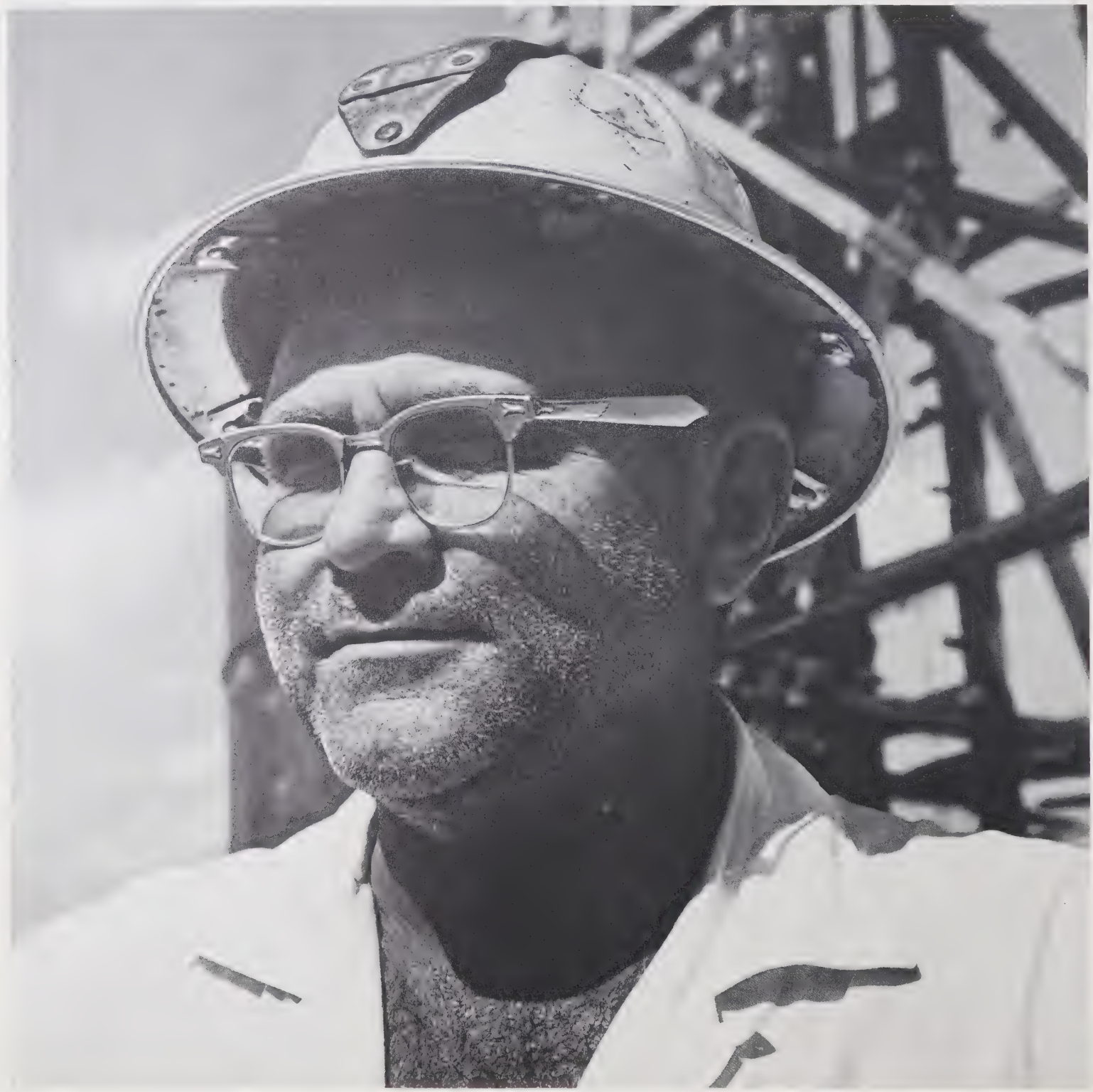
(5) Noranda believes its operations in other countries ought to behave in such a manner as to maximize the profitability and potential of those operations, even if this may conflict with its interests elsewhere. For example, each operation should exploit its opportunities for profitable exports even though this may involve competition with the parent.

Application of Policy

At about the same time that Mr. Bradfield first expressed Noranda's policy on its investments abroad, Canada Wire and Cable Company Limited — a Noranda subsidiary — was investing in wire and cable plants in countries to which it had previously exported products. In these nations, Canada Wire and Cable was careful in searching for, and finding, enterprising, reliable resident partners to take a majority interest wherever possible, while the company maintained a substantial minority interest and provided technical expertise. The remarkable success of these participations — now in seven countries — is largely due to co-operation with good partners. In its own right, Canada Wire and Cable is a considerable multinational company.

Even in Noranda's operations in the United States, local participation may be sought eventually, although the company's smelting, manufacturing and exploration activities there are still in too early a stage. In Britain, a 50 per cent interest was acquired in Rudolf Wolff and Co. Ltd., a leading member of the London Metal Exchange, and the company is stronger for the combination of a century's experience and expertise, with the backing of a major international metals producer.

Inside Canada, Noranda has found that bringing in foreign partners can greatly strengthen an operation. Northwood Pulp and Timber Ltd. is owned jointly by Noranda and the Mead Corporation of Dayton, Ohio. Through this partnership, Canada is assured of a portion of Mead's market for pulp, as well as benefitting from Mead's considerable operating know-how and financial ability.



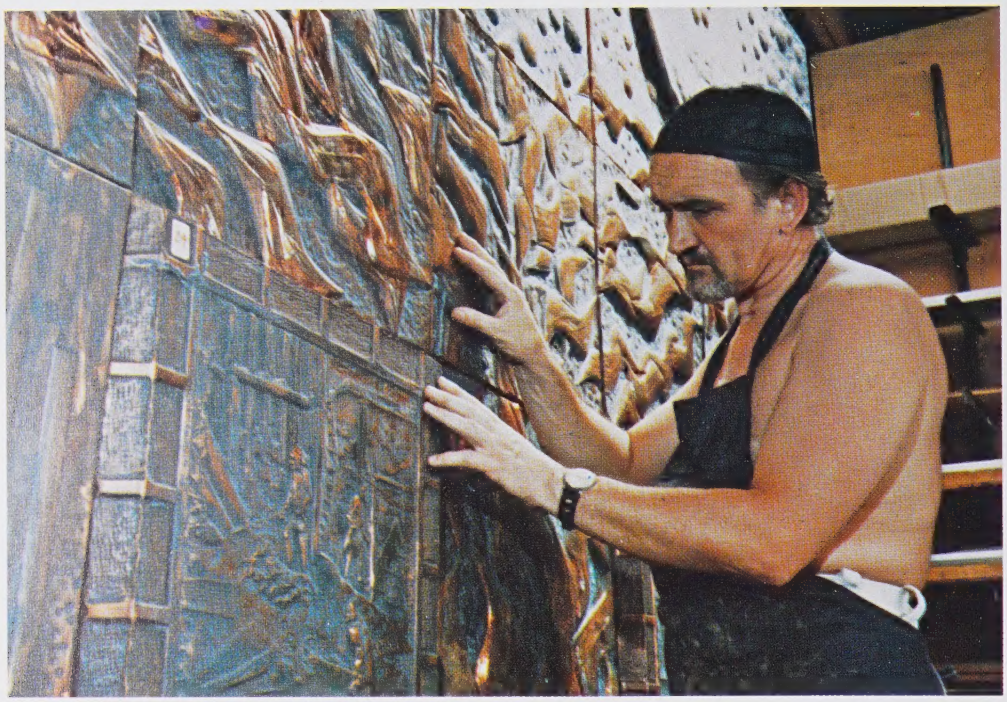
Mexican workers at Las Cuevas fluorspar mine.

Noranda's offer of a 49 per cent participation in Central Canada Potash to CF Industries Inc. of Chicago is another example of this form of partnership, in this case resulting from Noranda's anticipation during the early 1960s of eventual oversupply in potash. The partnership brought to Saskatchewan — and to Canada — much of the potash market and distribution system of the U.S. farm co-operative movement. Although part of the Central Canada Potash market was recently taken away by the Saskatchewan government, the American participation has been very helpful.

In these and in other instances, Noranda's experience shows that participation with foreign companies — both in their countries and in Canada — can add great strength to an enterprise.

**Mr. Cork is Vice-President-Treasurer, Noranda Mines Limited.*

A miner at the Empressa Minera gold mine, Nicaragua.



The recent reproduction on the cover of the 1972 Noranda annual report of a section of Laszlo Buday's hand-tooled copper murals drew considerable interest. Mr. Buday, a Budapest-trained artist, worked for about six months on two Noranda-commissioned murals which depict, in part, the history of mining, the landscape of mining districts and the faces of miners. The murals are in the main lobby of Noranda's new headquarters at Commerce Court West, Toronto. Right: faces of three miners. Left: the artist at work in Toronto on the Noranda commission.

Cover: The modern sawmill operation of Northwood Mills at Okanagan Falls, Southcentral, British Columbia.